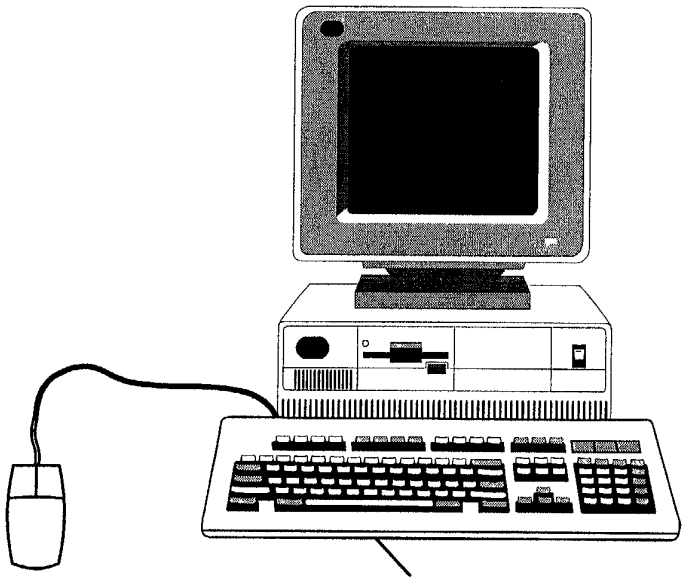
20070806150001



Computer System
6

FIG. 1

20070 86S7S007

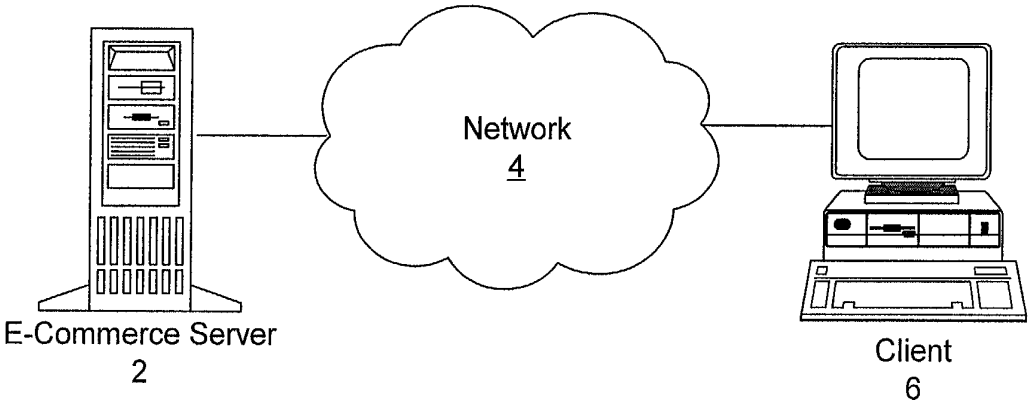


FIG. 2

20020'86S1S00T

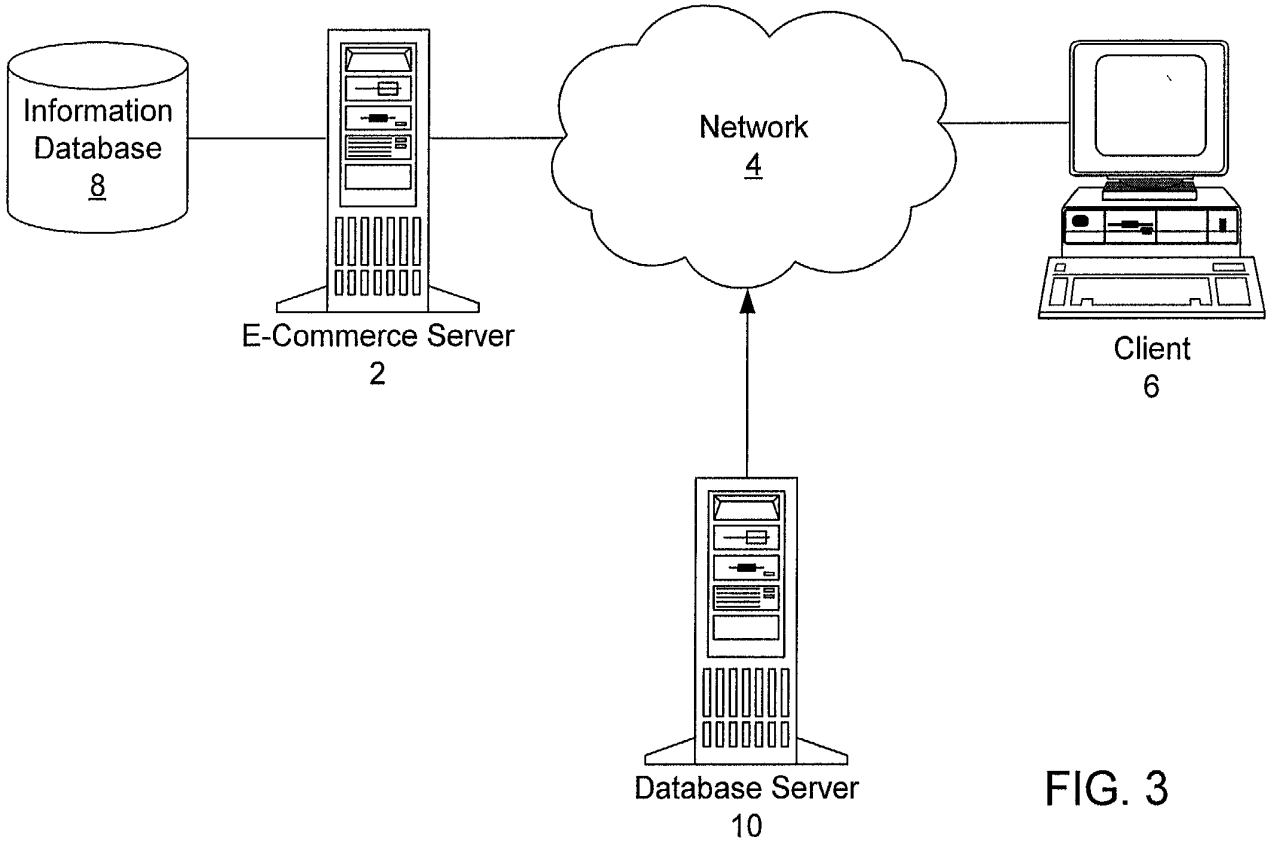


FIG. 3

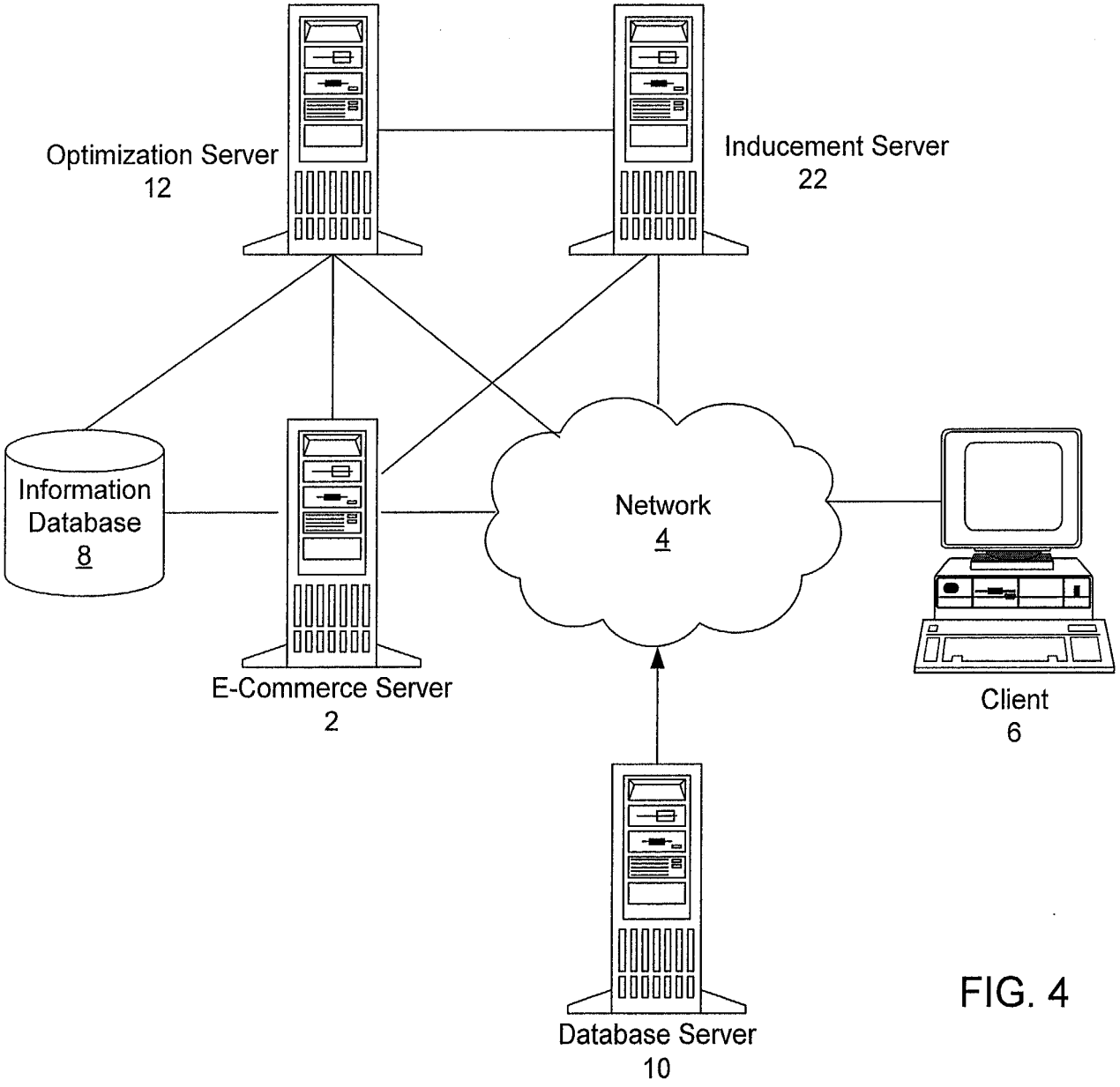

Optimization Server
12
Inducement Server
22
Information
Database
8
E-Commerce Server
2
Network
4
Client
6
Database Server
10

FIG. 4

Document - Page 15

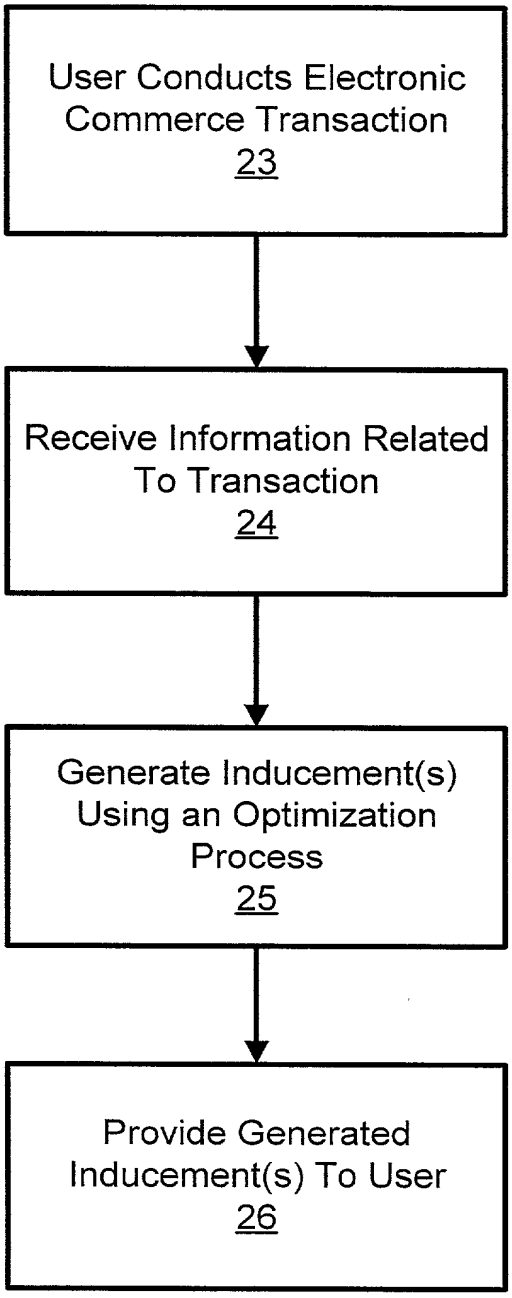


FIG. 5

EXHIBIT 1008 - PAGE 5

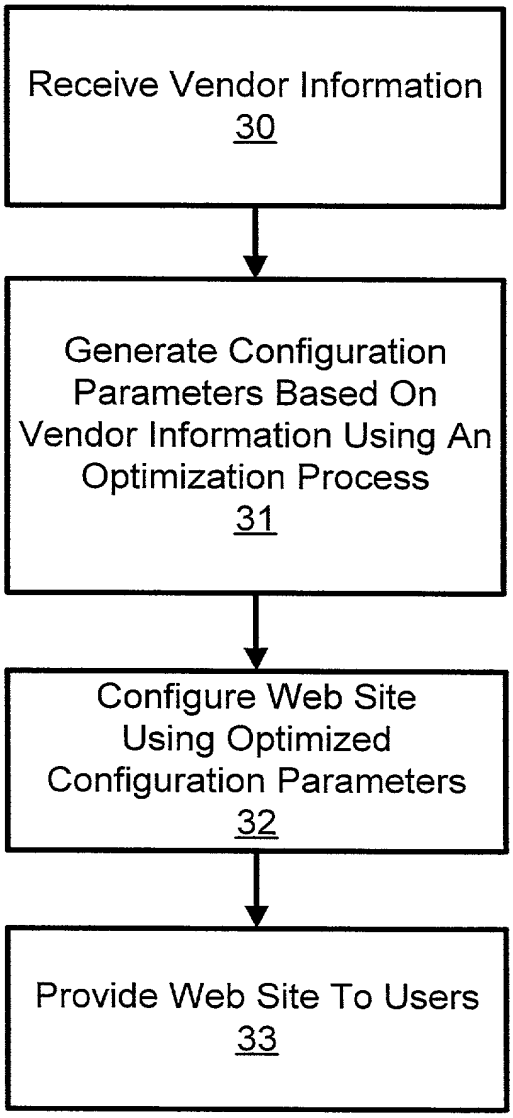


FIG. 6

20ATTO"86ST5007

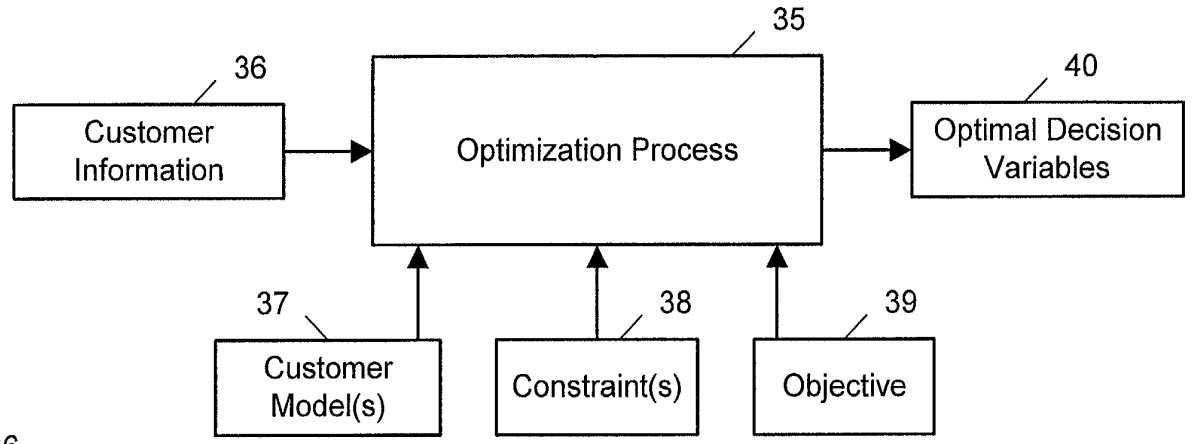


FIG. 7a

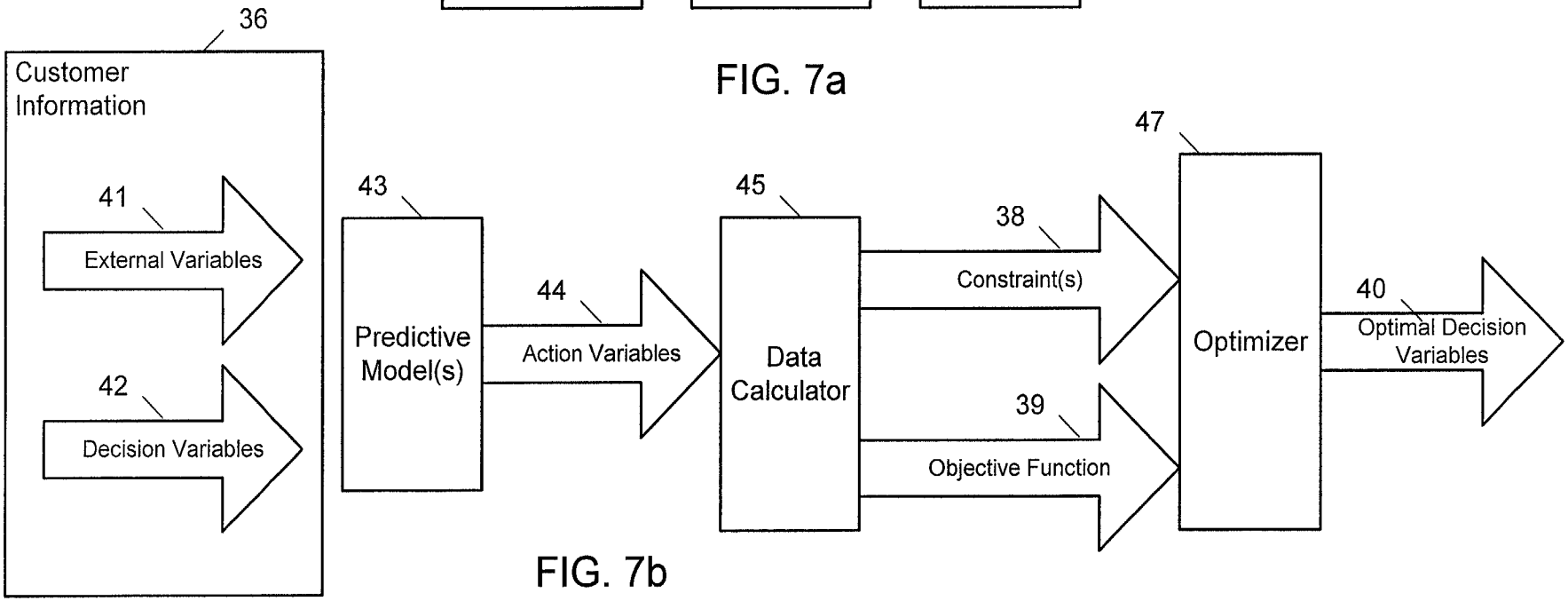


FIG. 7b

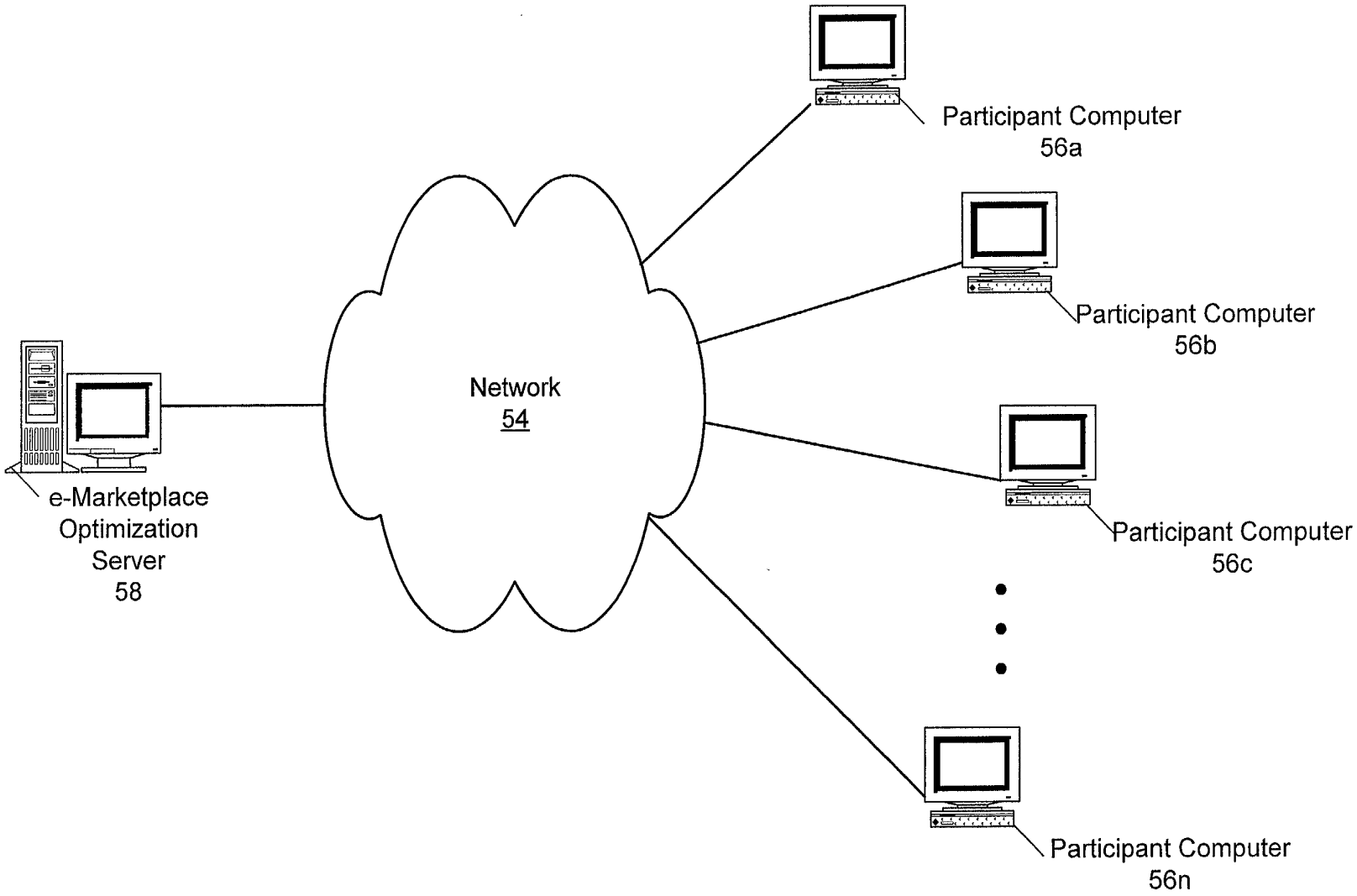

Participant Computer
56a
Participant Computer
56b
Network
54
Participant Computer
56c
e-Marketplace
Optimization
Server
58
Participant Computer
56n

FIG. 8

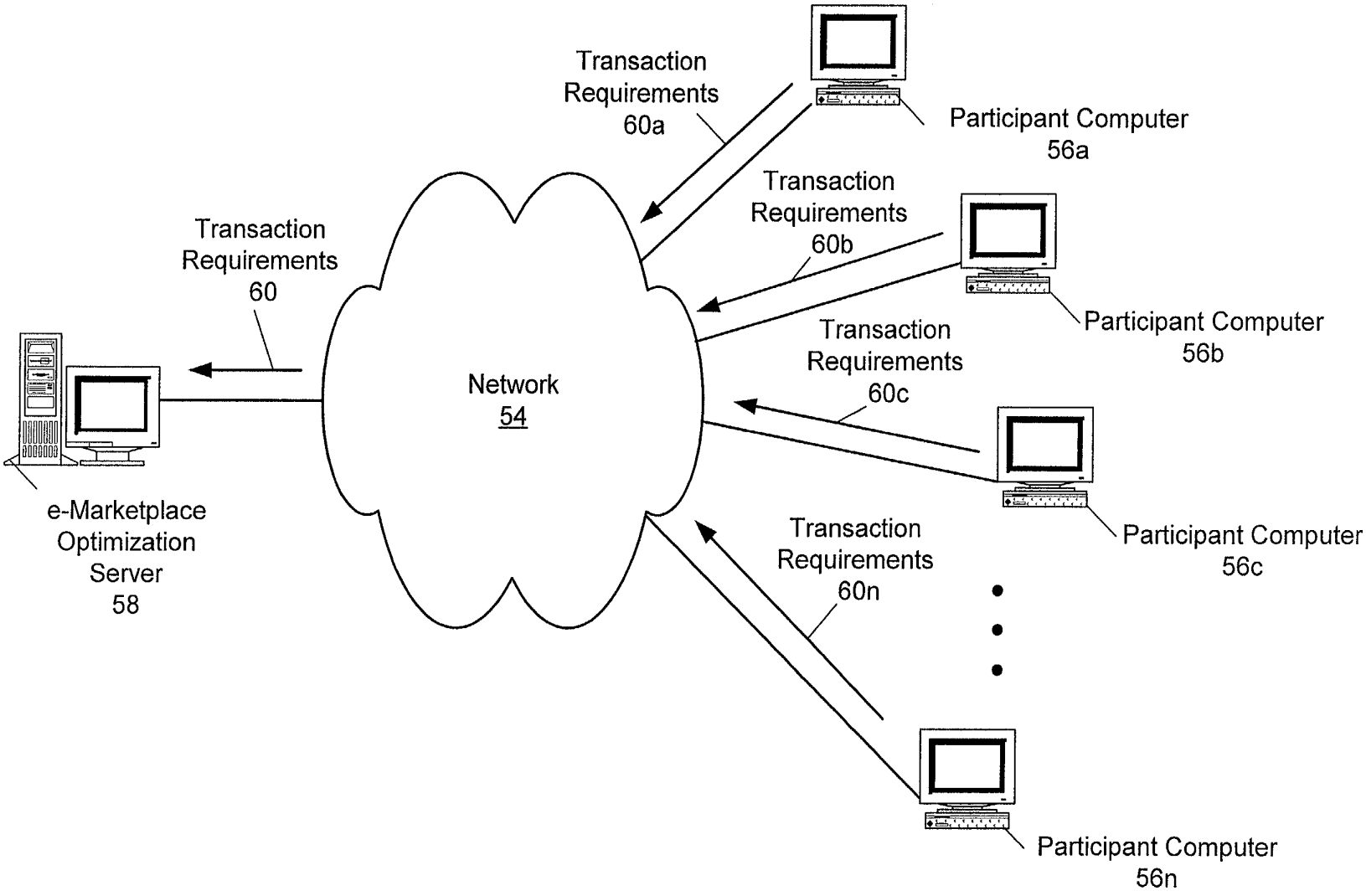

Transaction
Requirements
60a
Participant Computer
56a
Transaction
Requirements
60b
Participant Computer
56b
Transaction
Requirements
60
Network
54
Transaction
Requirements
60c
Participant Computer
56c
e-Marketplace
Optimization
Server
58
Transaction
Requirements
60n
Participant Computer
56n

FIG. 9a

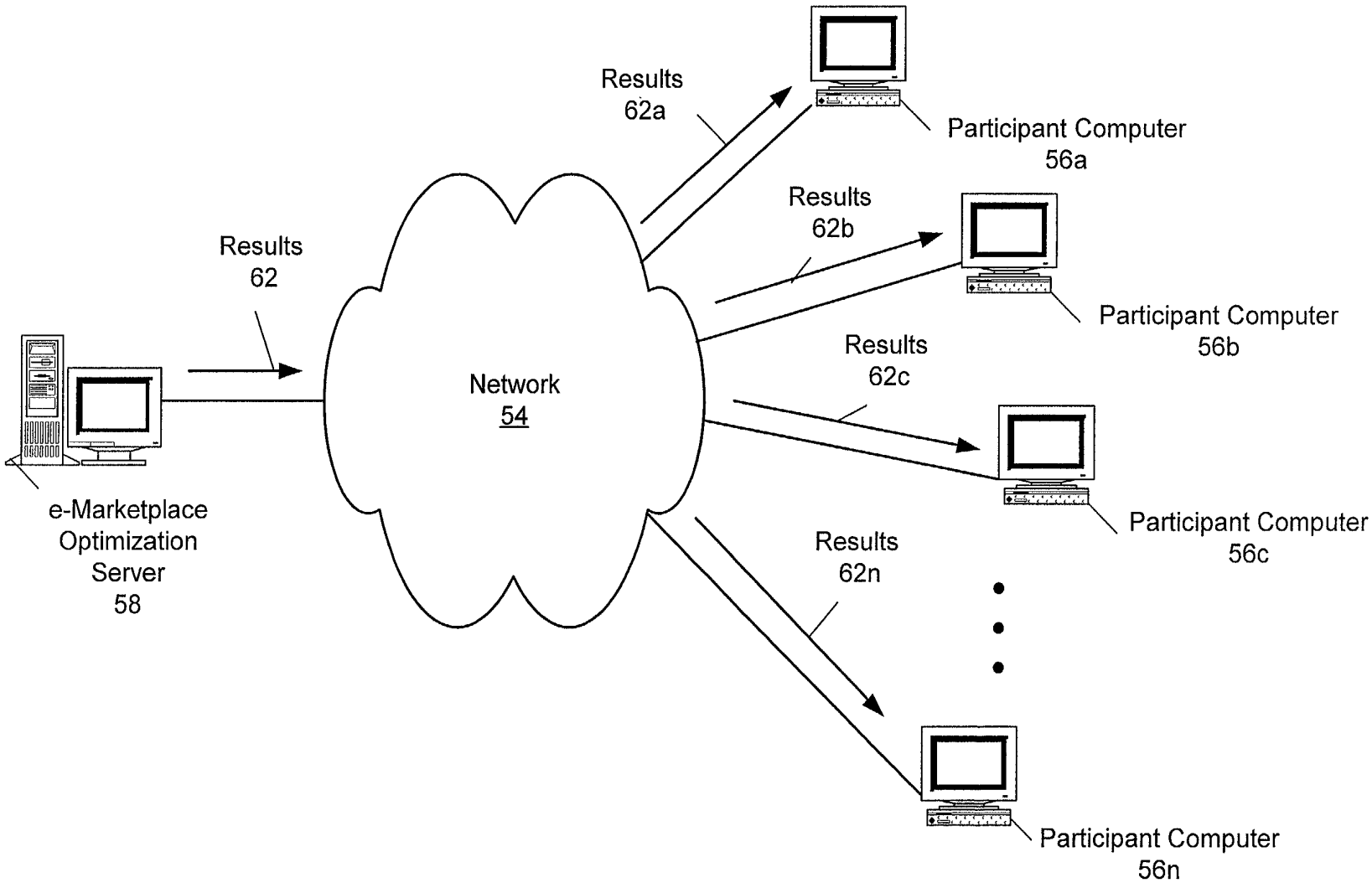

Results
62a
Participant Computer
56a
Results
62b
Participant Computer
56b
Results
62
Network
54
Results
62c
Participant Computer
56c
e-Marketplace
Optimization
Server
58
Results
62n
Participant Computer
56n

FIG. 9b

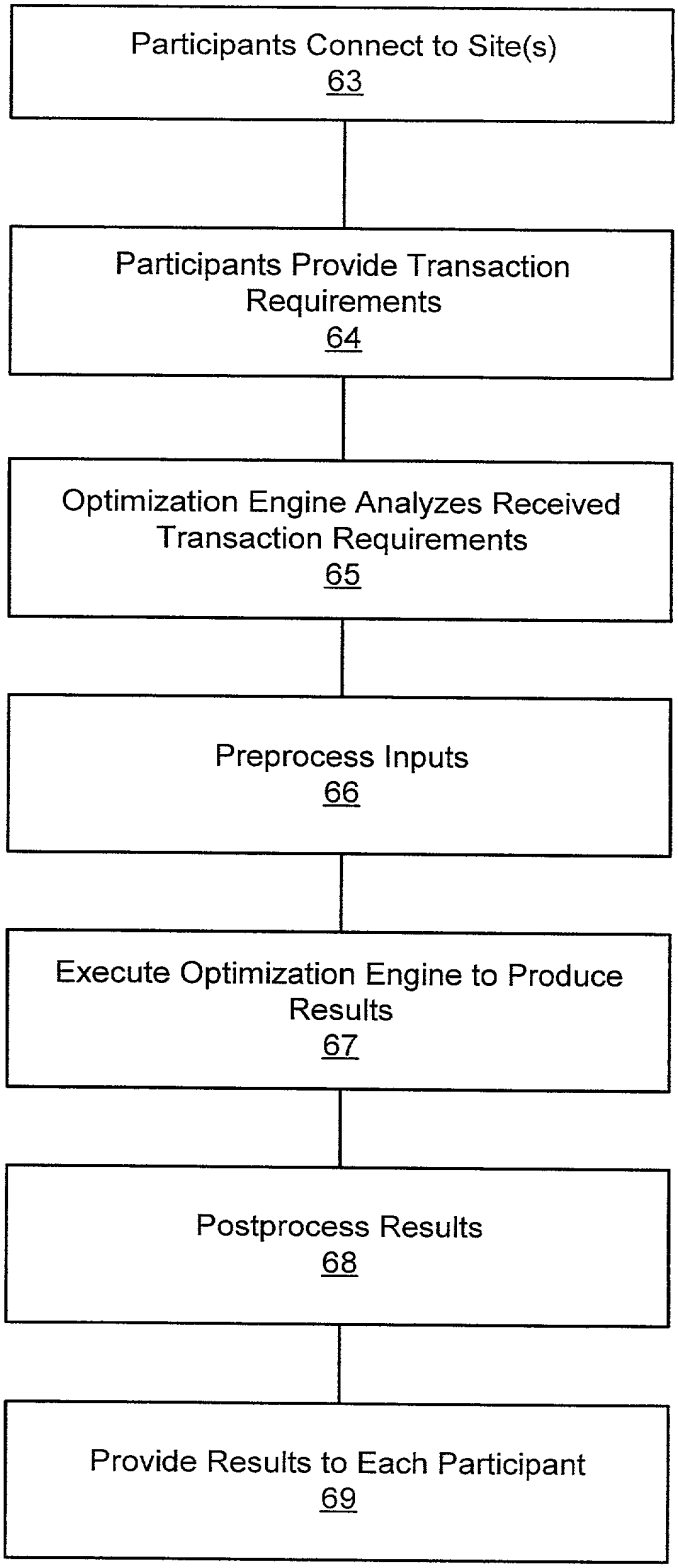

Participants Connect to Site(s)
63
Participants Provide Transaction Requirements
64
Optimization Engine Analyzes Received Transaction Requirements
65
Preprocess Inputs
66
Execute Optimization Engine to Produce Results
67
Postprocess Results
68
Provide Results to Each Participant
69

FIG. 10

20070086750T

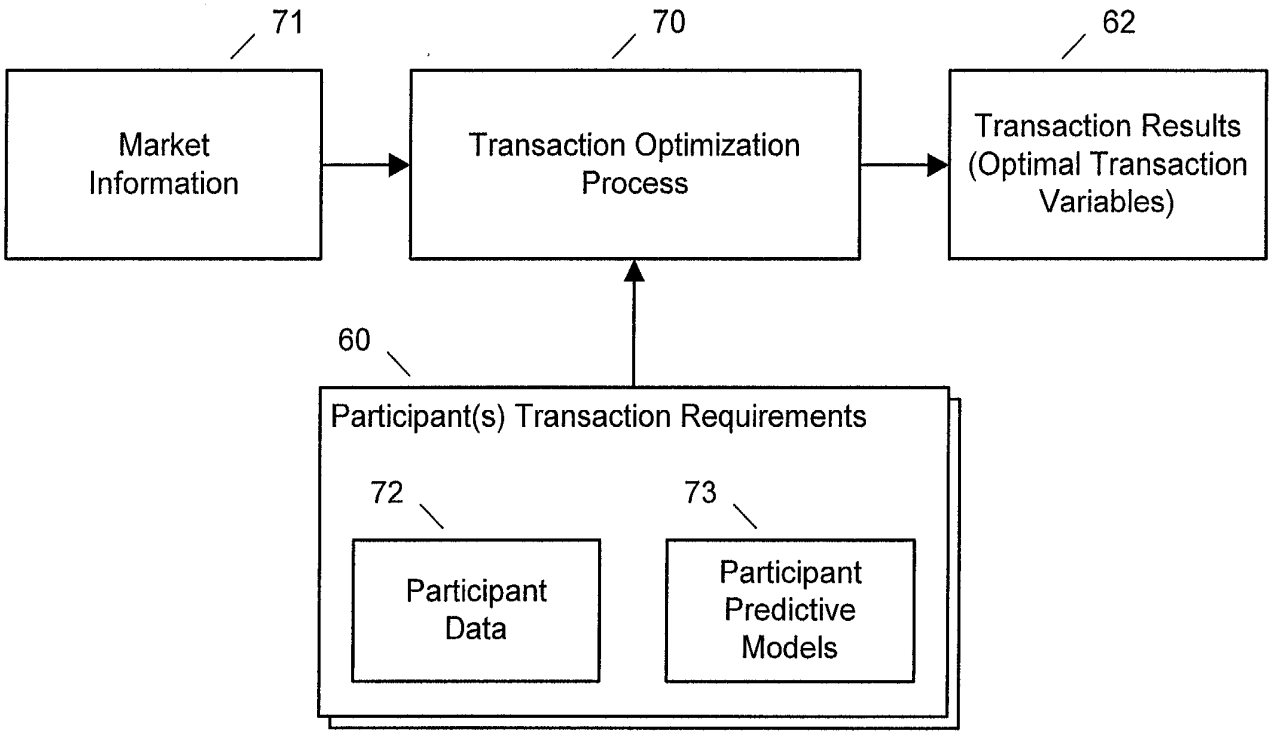


FIG. 11a

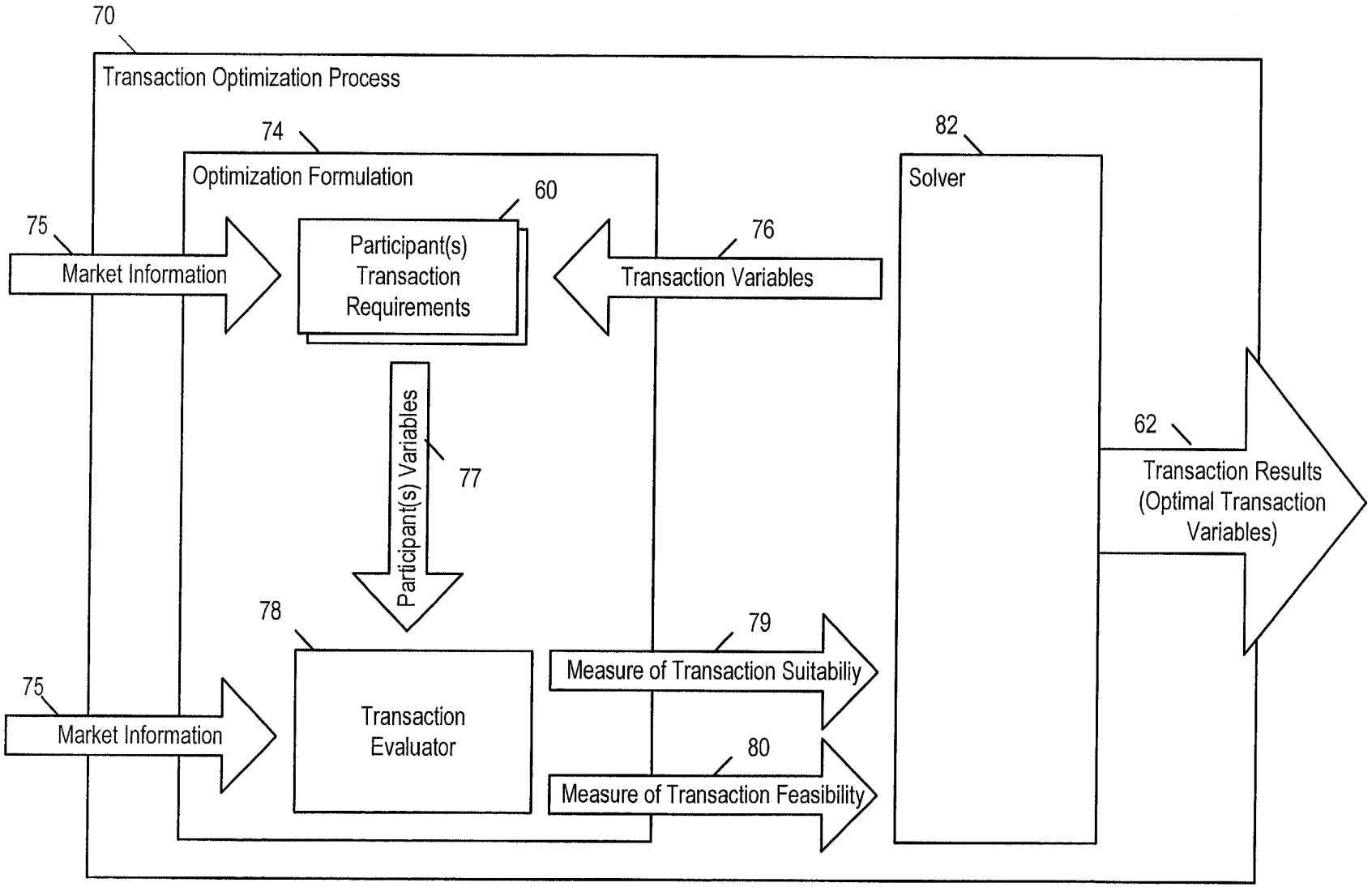

70
Transaction Optimization Process
74
Optimization Formulation
82
Solver
60
75
Market Information
Participant(s) Transaction Requirements
76
Transaction Variables
Participant(s) Variables
77
62
Transaction Results (Optimal Transaction Variables)
78
79
Measure of Transaction Suitabiliy
75
Market Information
Transaction Evaluator
80
Measure of Transaction Feasibility

FIG. 11b

US 2005/0096873 A1

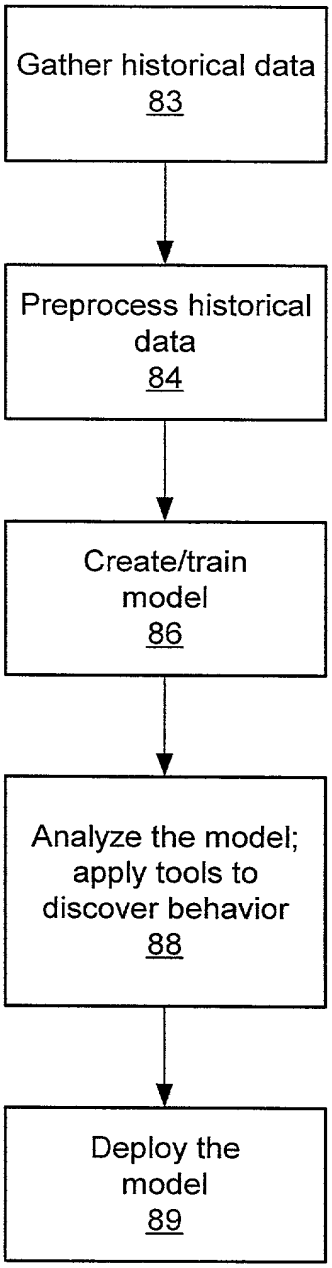


FIG. 12

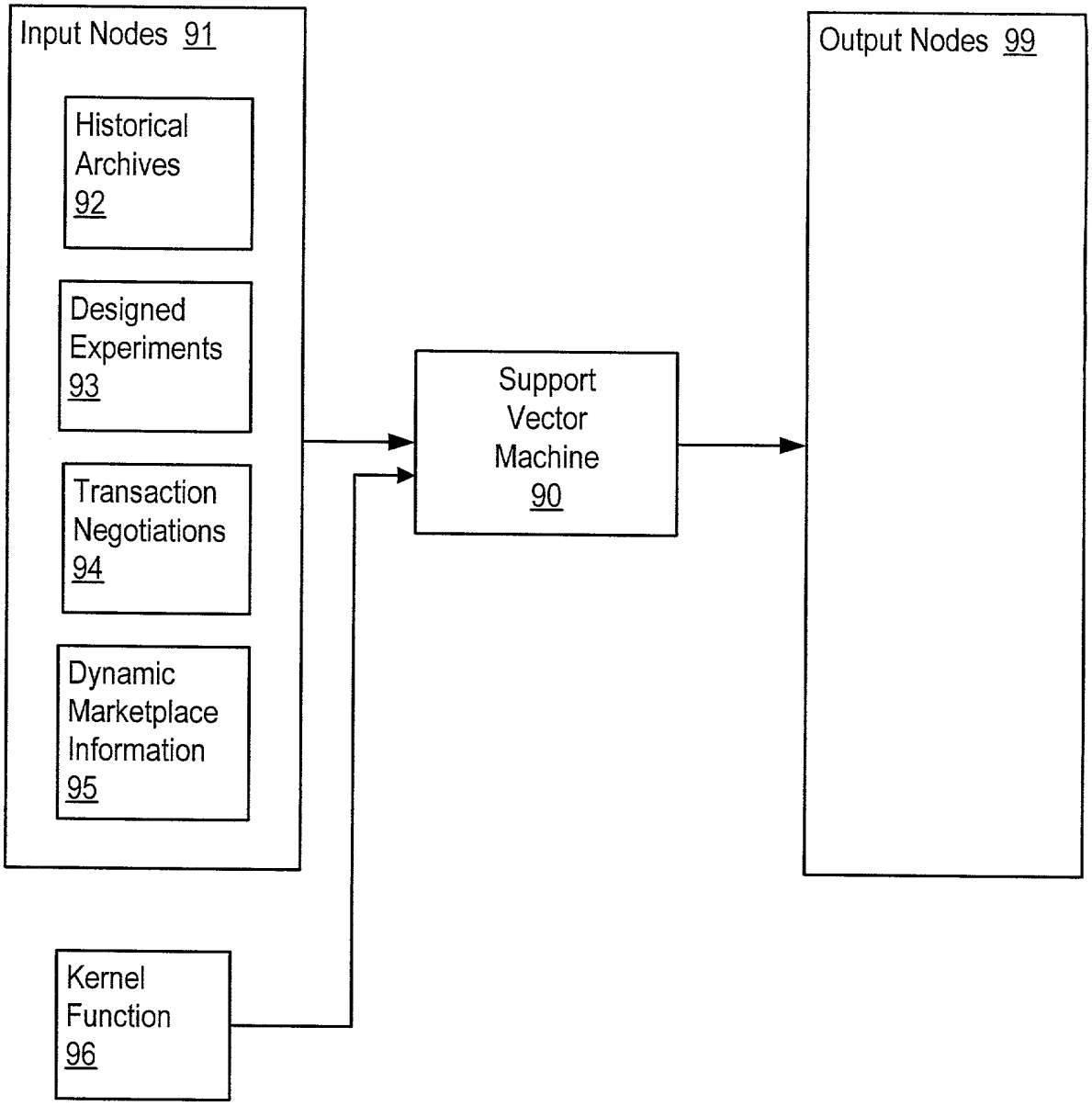

Input Nodes 91
Historical Archives 92
Designed Experiments 93
Transaction Negotiations 94
Dynamic Marketplace Information 95
Kernel Function 96
Support Vector Machine 90
Output Nodes 99

FIG. 13

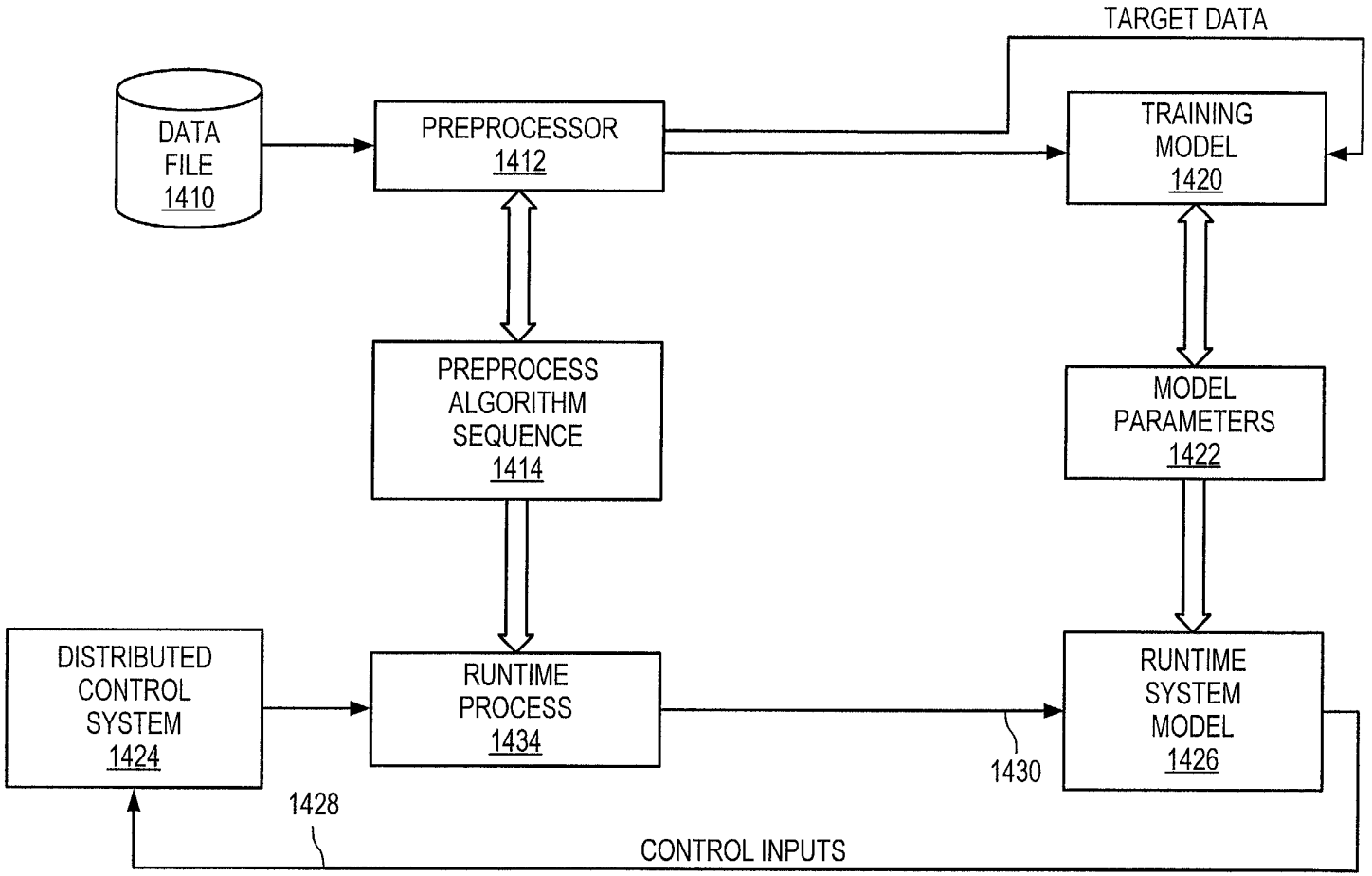

TARGET DATA
DATA FILE 1410
PREPROCESSOR 1412
TRAINING MODEL 1420
PREPROCESS ALGORITHM SEQUENCE 1414
MODEL PARAMETERS 1422
DISTRIBUTED CONTROL SYSTEM 1424
RUNTIME PROCESS 1434
RUNTIME SYSTEM MODEL 1426
1430
1428
CONTROL INPUTS

FIG. 14A

20070829.0001

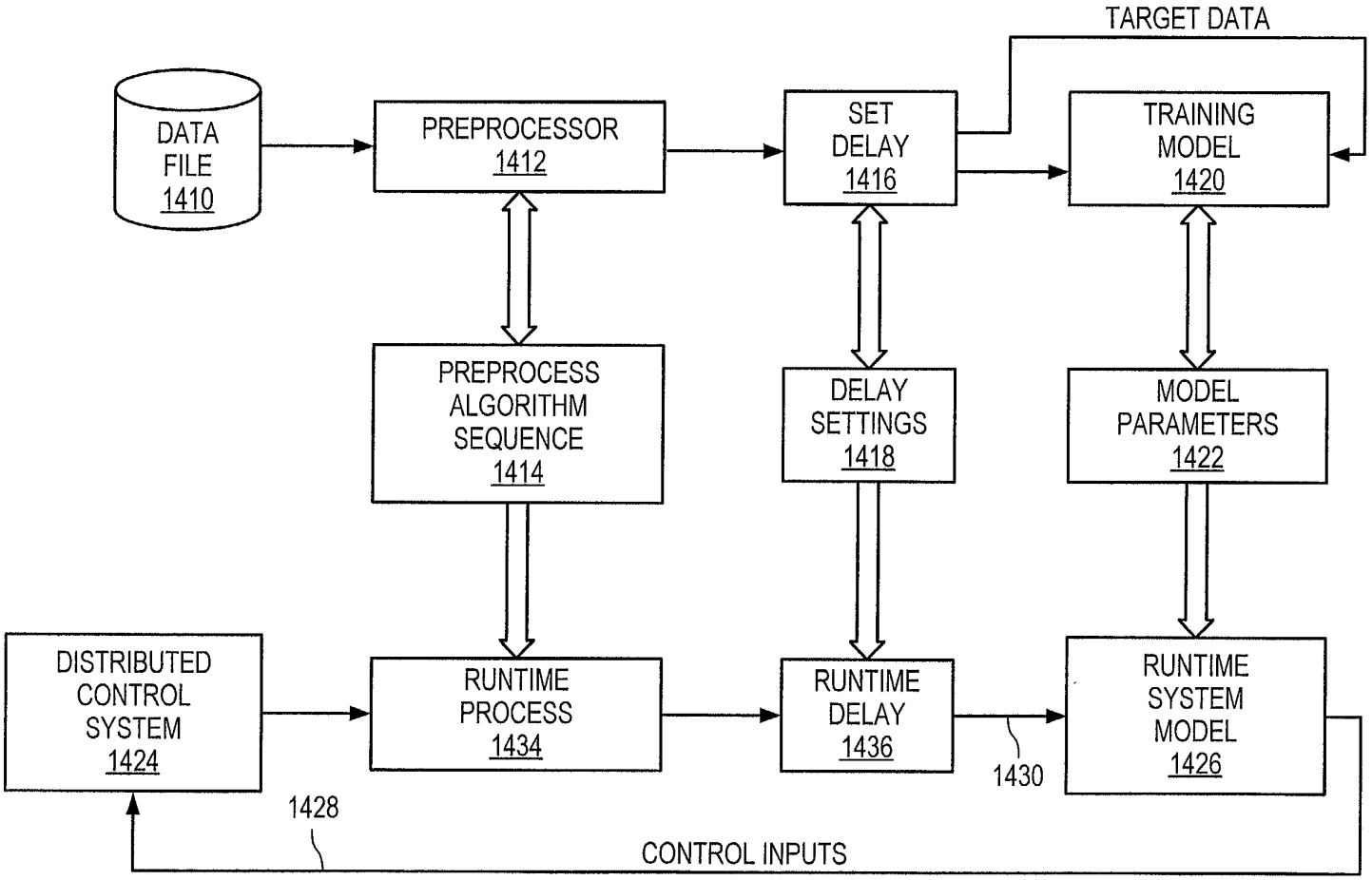


FIG. 14B

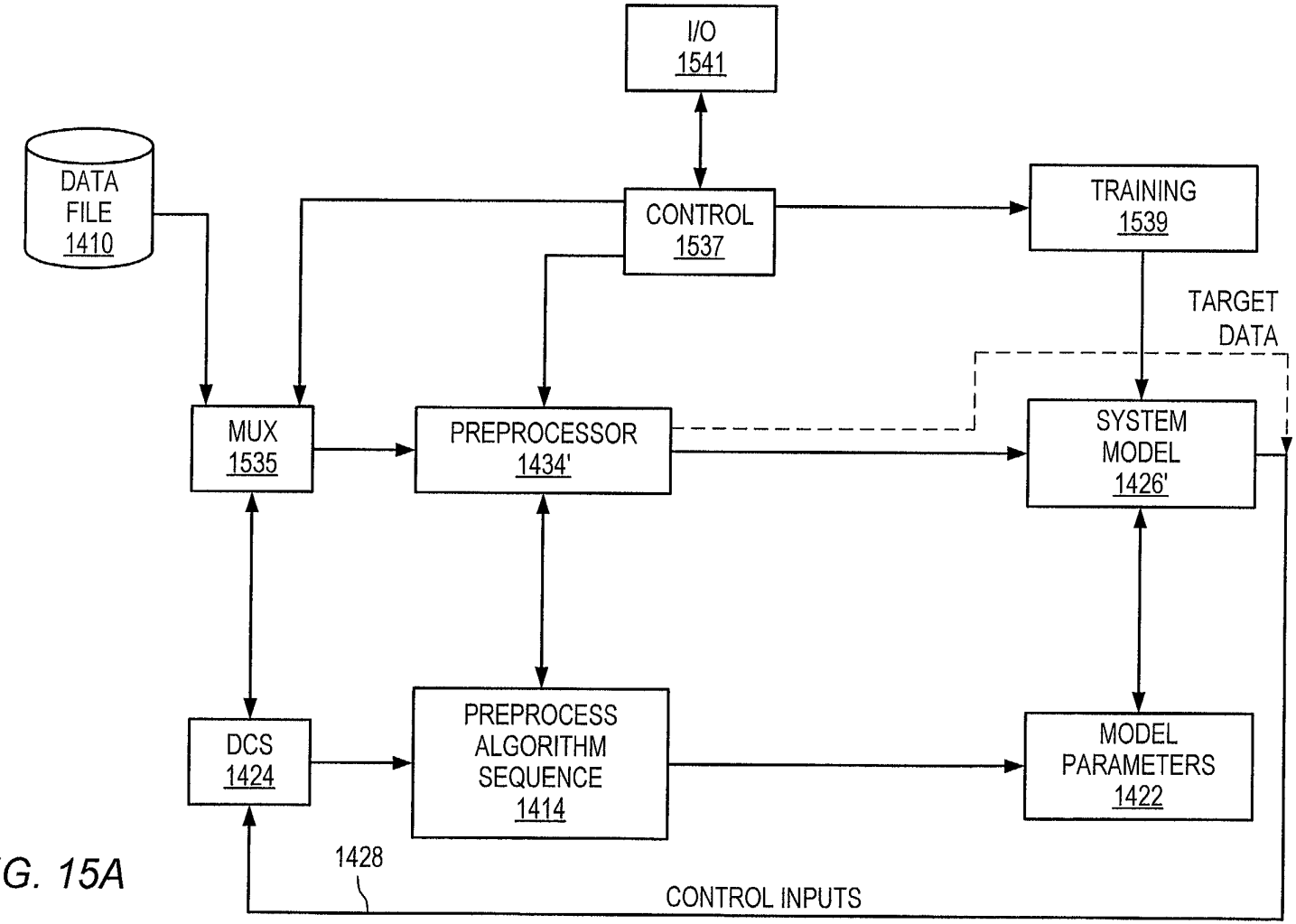

I/O
1541
DATA
FILE
1410
CONTROL
1537
TRAINING
1539
TARGET
DATA
MUX
1535
PREPROCESSOR
1434'
SYSTEM
MODEL
1426'
DCS
1424
PREPROCESS
ALGORITHM
SEQUENCE
1414
MODEL
PARAMETERS
1422
1428
CONTROL INPUTS

FIG. 15A

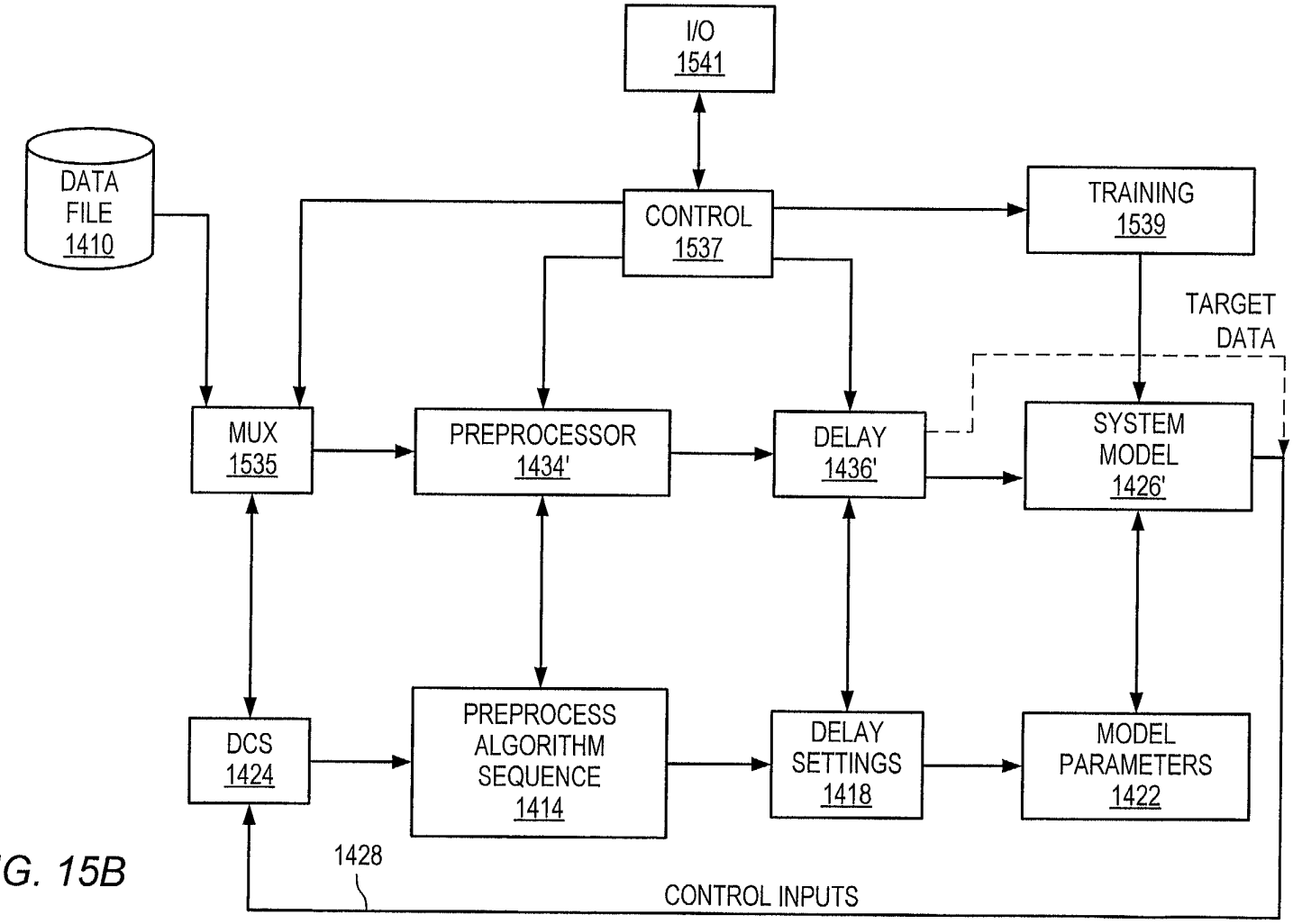

I/O
1541
DATA
FILE
1410
CONTROL
1537
TRAINING
1539
TARGET
DATA
MUX
1535
PREPROCESSOR
1434'
DELAY
1436'
SYSTEM
MODEL
1426'
DCS
1424
PREPROCESS
ALGORITHM
SEQUENCE
1414
DELAY
SETTINGS
1418
MODEL
PARAMETERS
1422
1428
CONTROL INPUTS

FIG. 15B

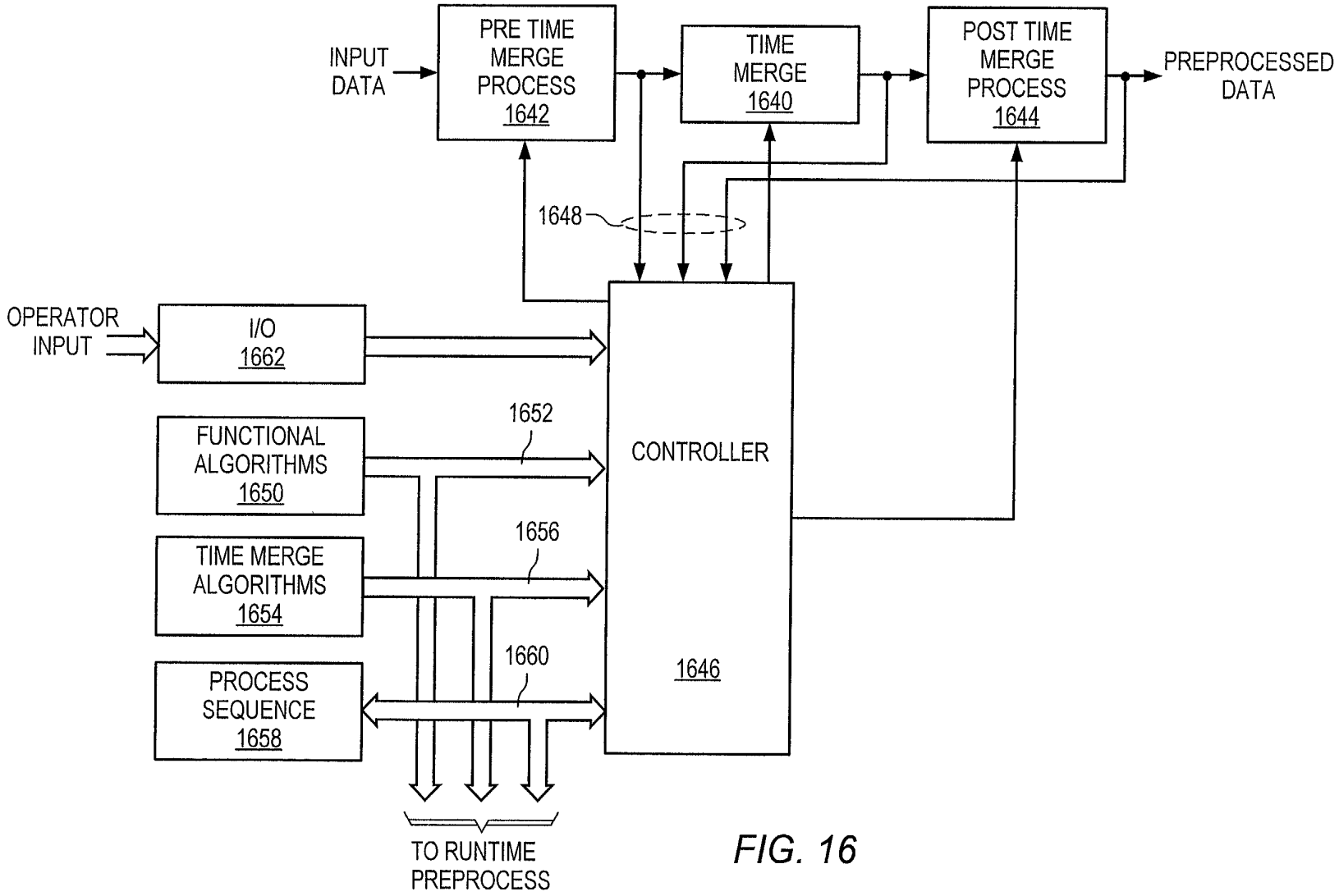

INPUT DATA
PRE TIME MERGE PROCESS 1642
TIME MERGE 1640
POST TIME MERGE PROCESS 1644
PREPROCESSED DATA
1648
OPERATOR INPUT
I/O 1662
FUNCTIONAL ALGORITHMS 1650
1652
TIME MERGE ALGORITHMS 1654
1656
PROCESS SEQUENCE 1658
1660
CONTROLLER
1646
TO RUNTIME PREPROCESS

FIG. 16

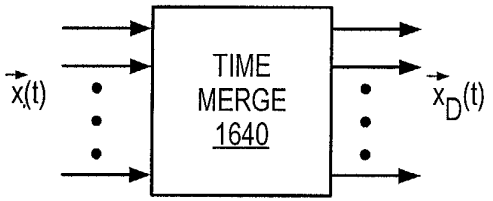


FIG. 17

20070 86S7S00T

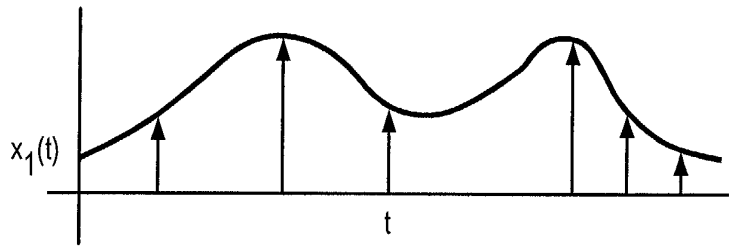


FIG. 18A

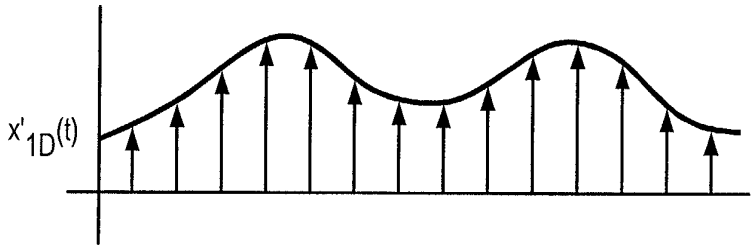


FIG. 18B

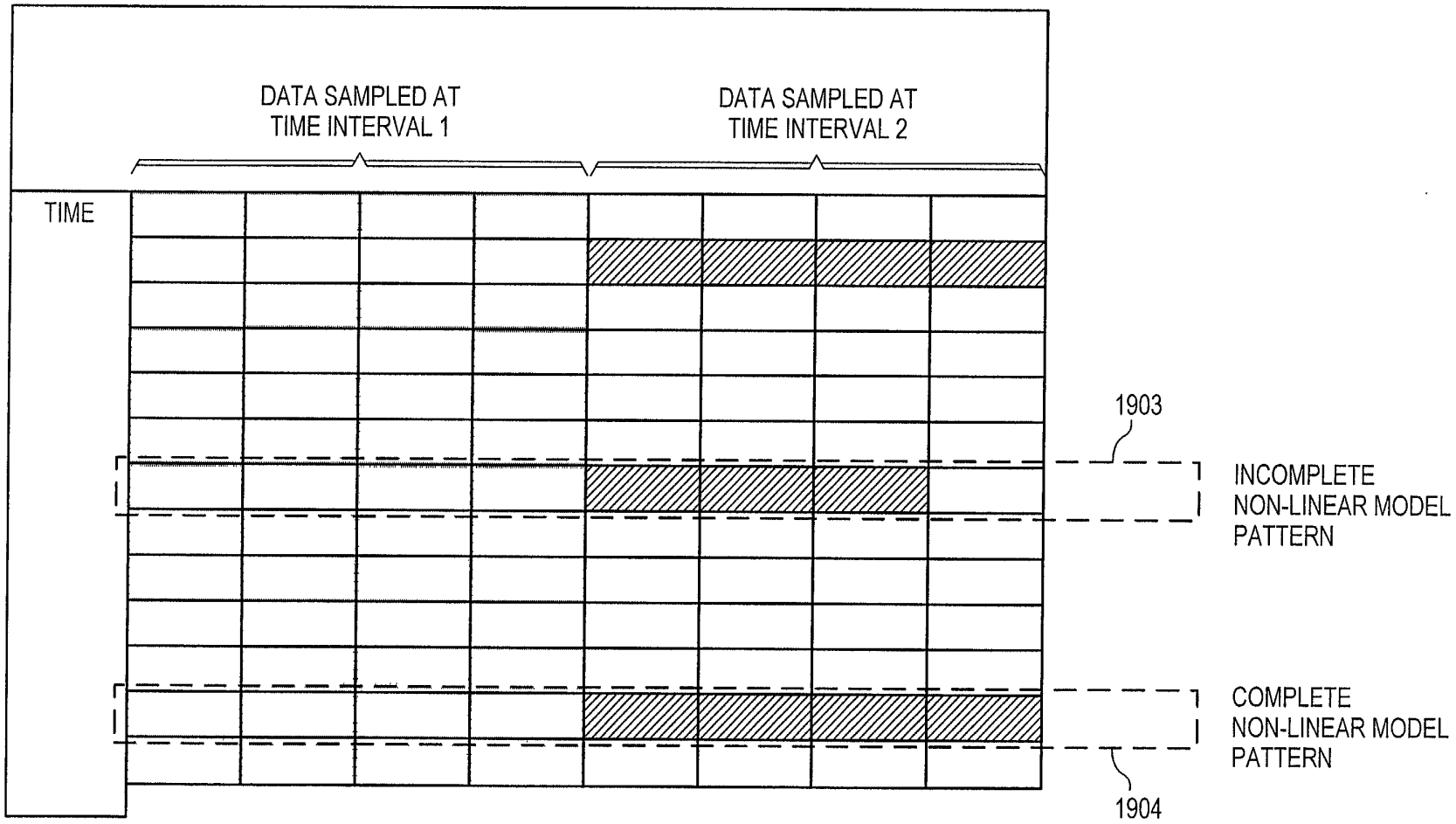

DATA SAMPLED AT
TIME INTERVAL 1
DATA SAMPLED AT
TIME INTERVAL 2
TIME
1903
INCOMPLETE
NON-LINEAR MODEL
PATTERN
COMPLETE
NON-LINEAR MODEL
PATTERN
1904

FIG. 19A

20811D 8651S00T

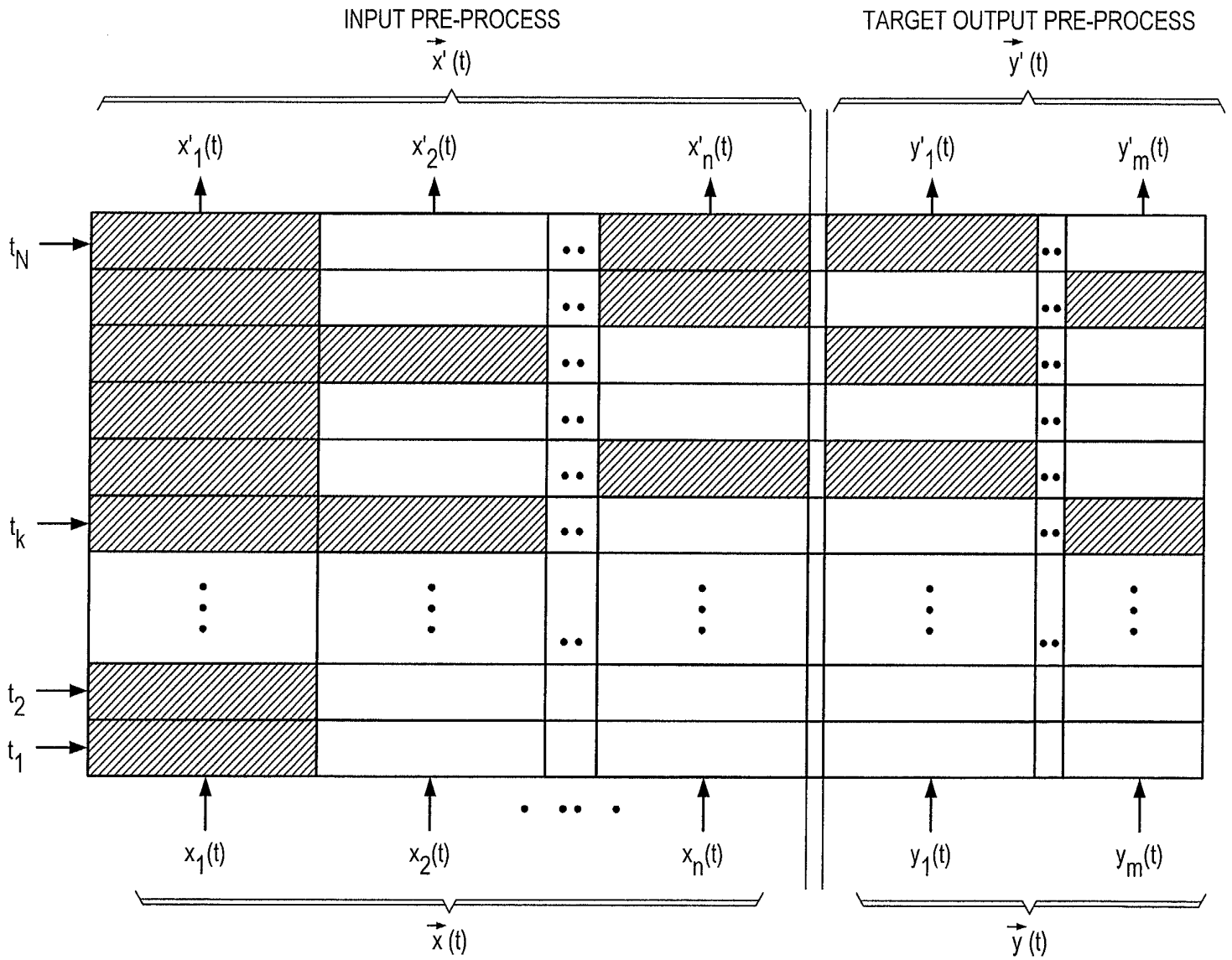
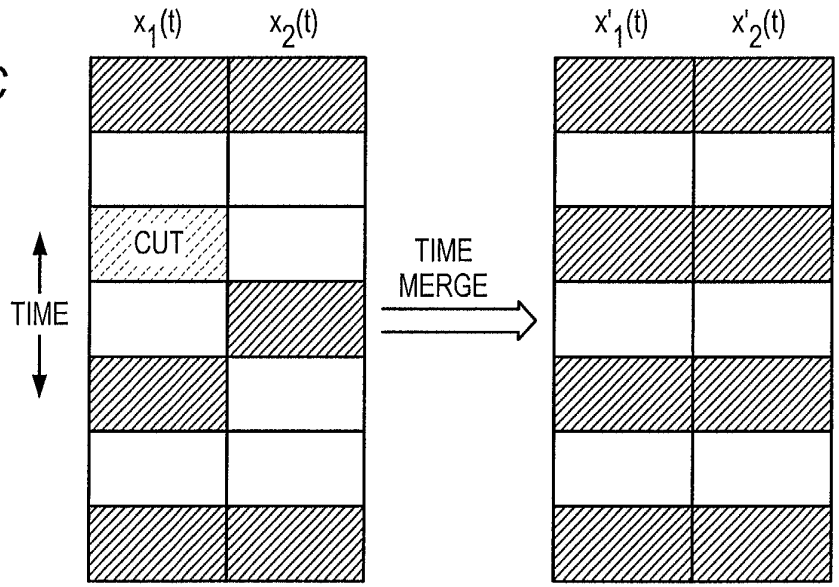


FIG. 19B

FIG. 19C



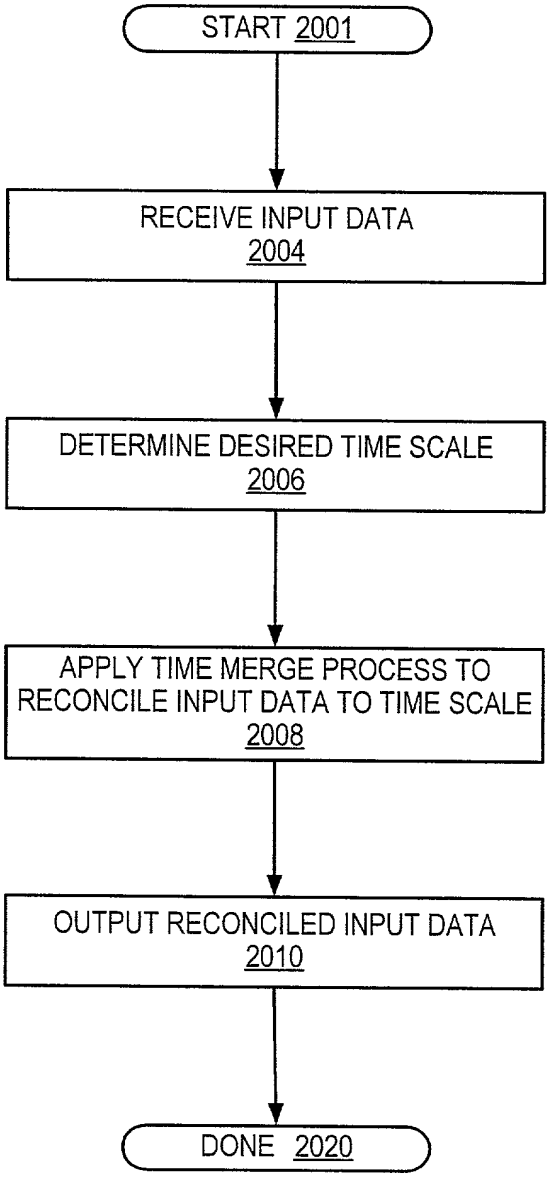

START 2001
RECEIVE INPUT DATA
2004
DETERMINE DESIRED TIME SCALE
2006
APPLY TIME MERGE PROCESS TO
RECONCILE INPUT DATA TO TIME SCALE
2008
OUTPUT RECONCILED INPUT DATA
2010
DONE 2020

FIG. 20A

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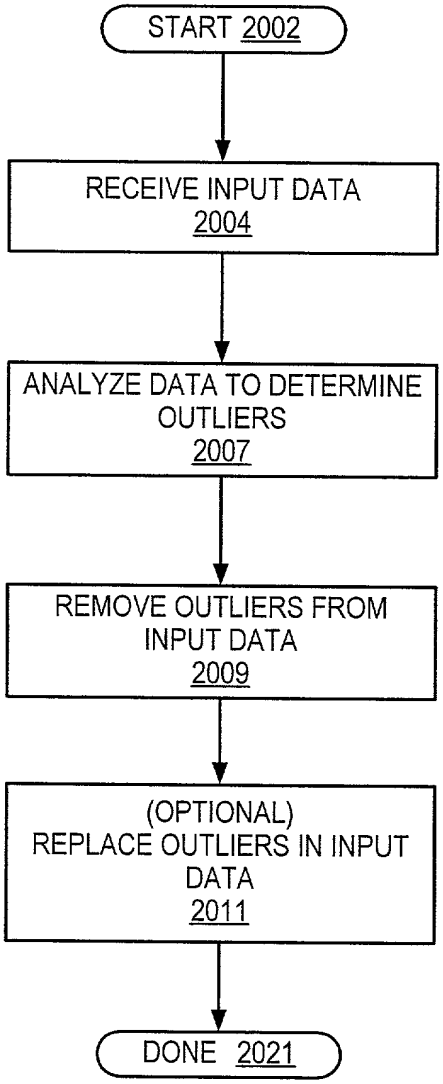

FIG. 20B

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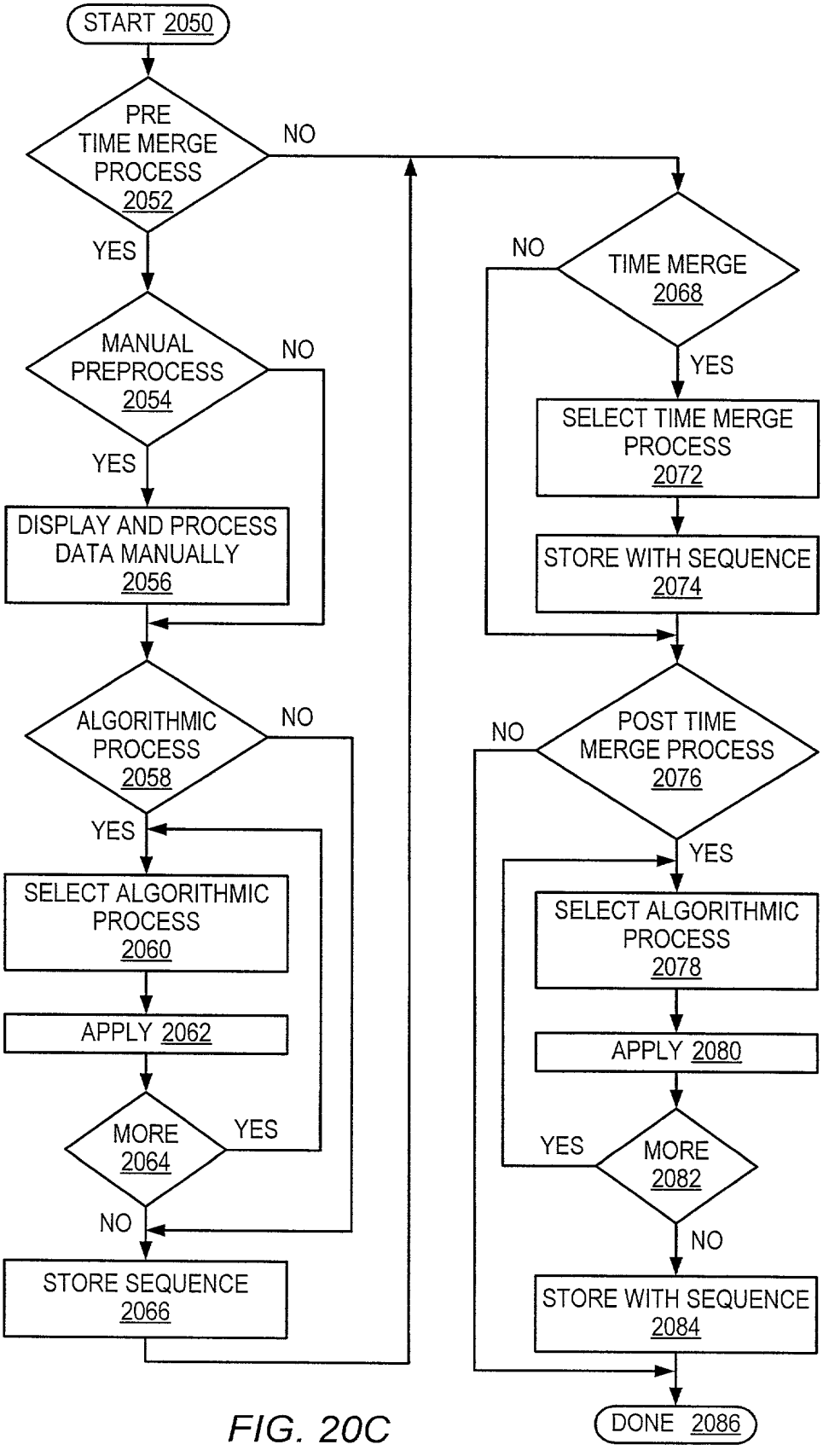

FIG. 20C

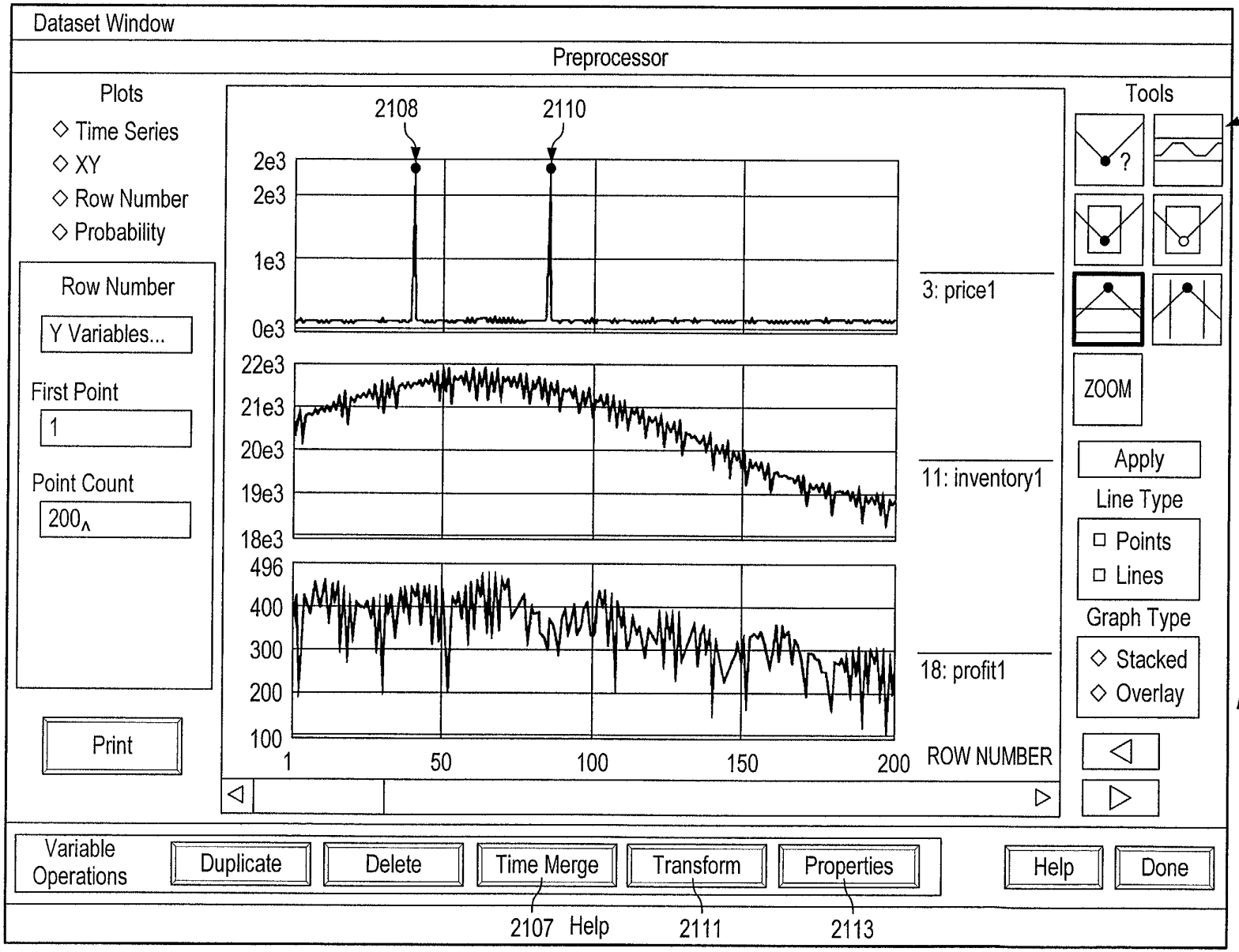
Dataset Window
Preprocessor
Plots
◇ Time Series
◇ XY
◇ Row Number
◇ Probability
Row Number
Y Variables...
First Point
1
Point Count
200
Print
2108
2110
2e3
2e3
1e3
0e3
22e3
21e3
20e3
19e3
18e3
496
400
300
200
100
1
50
100
150
200
ROW NUMBER
3: price1
11: inventory1
18: profit1
Tools
2084
ZOOM
Apply
Line Type
Points
Lines
Graph Type
Stacked
Overlay
Variable Operations
Duplicate
Delete
Time Merge
Transform
Properties
Help
Done
2107
Help
2111
2113

FIG. 21A

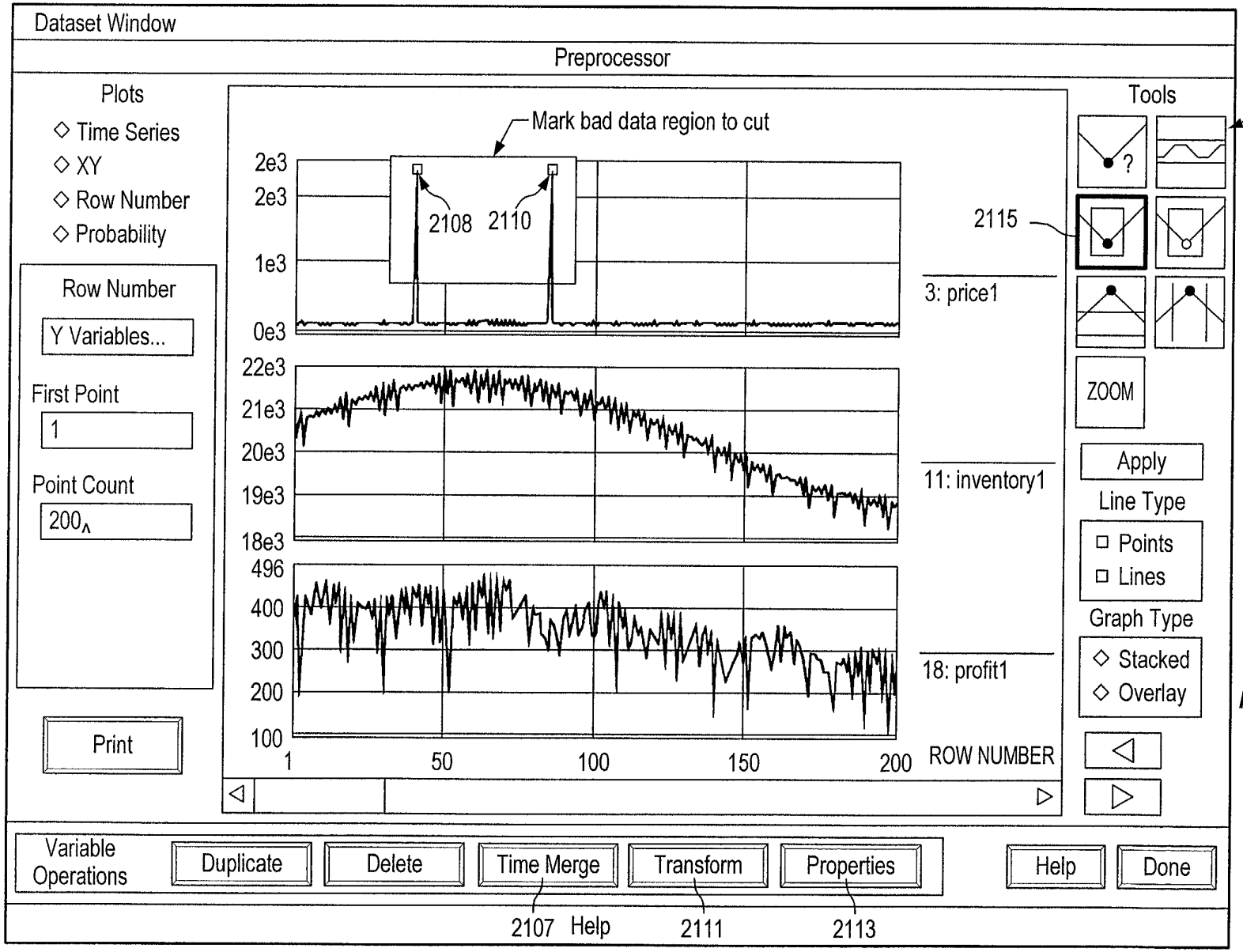
Dataset Window
Preprocessor
Plots
◇ Time Series
◇ XY
◇ Row Number
◇ Probability
Row Number
Y Variables...
First Point
1
Point Count
200
Print
Mark bad data region to cut
2108
2110
2115
2e3
2e3
1e3
0e3
22e3
21e3
20e3
19e3
18e3
496
400
300
200
100
1
50
100
150
200
ROW NUMBER
3: price1
11: inventory1
18: profit1
Tools
2084
ZOOM
Apply
Line Type
Points
Lines
Graph Type
Stacked
Overlay
Variable Operations
Duplicate
Delete
Time Merge
Transform
Properties
Help
Done
2107
Help
2111
2113

FIG. 21B

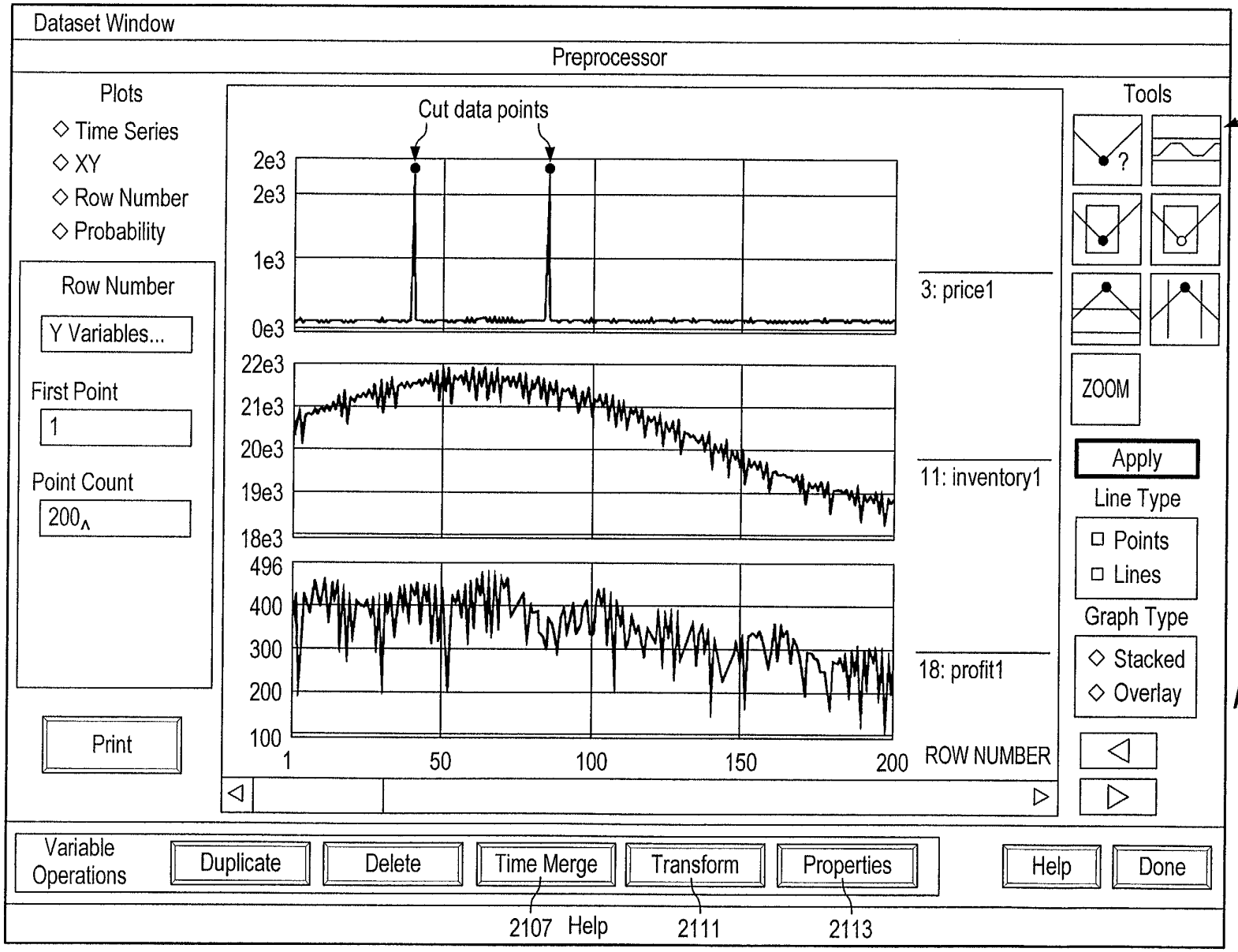
Dataset Window
Preprocessor
Plots
◇ Time Series
◇ XY
◇ Row Number
◇ Probability
Row Number
Y Variables...
First Point
1
Point Count
200
Print
Cut data points
2e3
2e3
1e3
0e3
22e3
21e3
20e3
19e3
18e3
496
400
300
200
100
1
50
100
150
200
ROW NUMBER
3: price1
11: inventory1
18: profit1
Tools
2084
ZOOM
Apply
Line Type
Points
Lines
Graph Type
Stacked
Overlay
Variable Operations
Duplicate
Delete
Time Merge
Transform
Properties
Help
Done
2107
Help
2111
2113

FIG. 21C

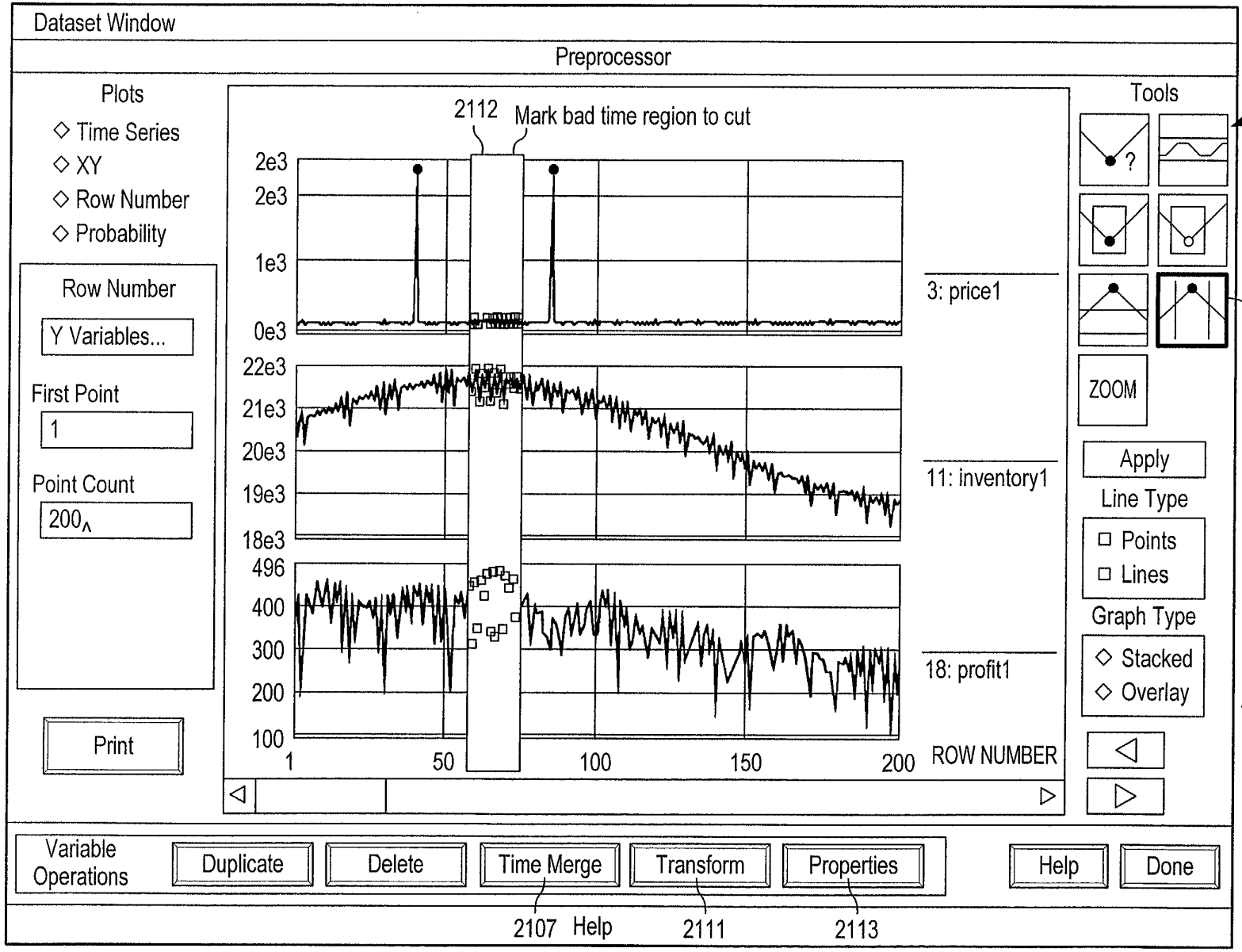
Dataset Window
Preprocessor
Plots
◇ Time Series
◇ XY
◇ Row Number
◇ Probability
Row Number
Y Variables...
First Point
1
Point Count
200
Print
2112
Mark bad time region to cut
2e3
2e3
1e3
0e3
22e3
21e3
20e3
19e3
18e3
496
400
300
200
100
1
50
100
150
200
ROW NUMBER
3: price1
11: inventory1
18: profit1
Tools
2084
2105
ZOOM
Apply
Line Type
Points
Lines
Graph Type
Stacked
Overlay
Variable Operations
Duplicate
Delete
Time Merge
Transform
Properties
Help
Done
2107
Help
2111
2113

FIG. 21D

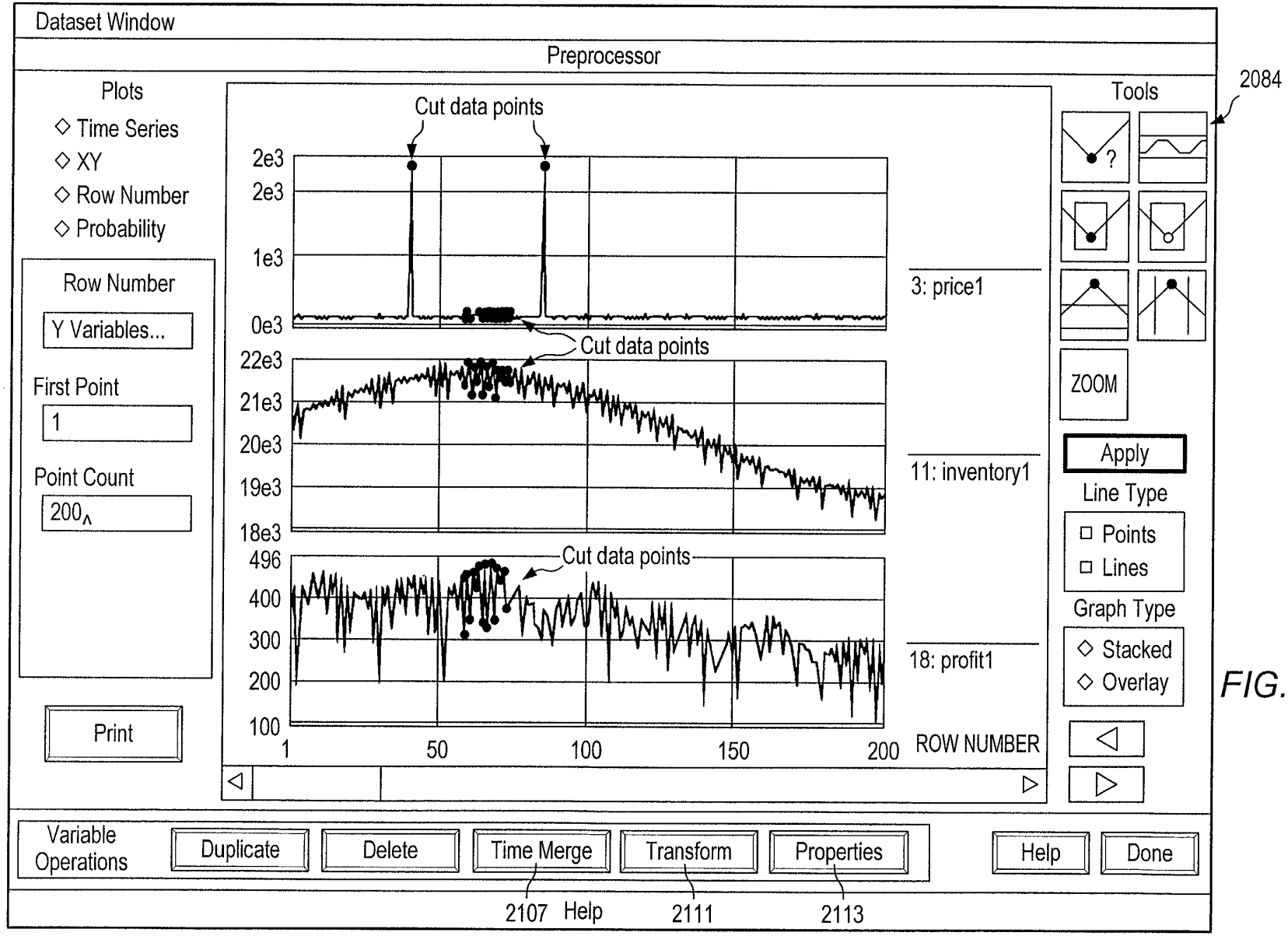
Dataset Window
Preprocessor
Plots
◇ Time Series
◇ XY
◇ Row Number
◇ Probability
Row Number
Y Variables...
First Point
1
Point Count
200
Print
Cut data points
2e3
2e3
1e3
0e3
3: price1
Cut data points
22e3
21e3
20e3
19e3
18e3
11: inventory1
Cut data points
496
400
300
200
100
18: profit1
1
50
100
150
200
ROW NUMBER
Tools
2084
ZOOM
Apply
Line Type
Points
Lines
Graph Type
◇ Stacked
◇ Overlay
Variable Operations
Duplicate
Delete
Time Merge
Transform
Properties
Help
Done
2107
Help
2111
2113

FIG. 21E

US 7,058,896 B2

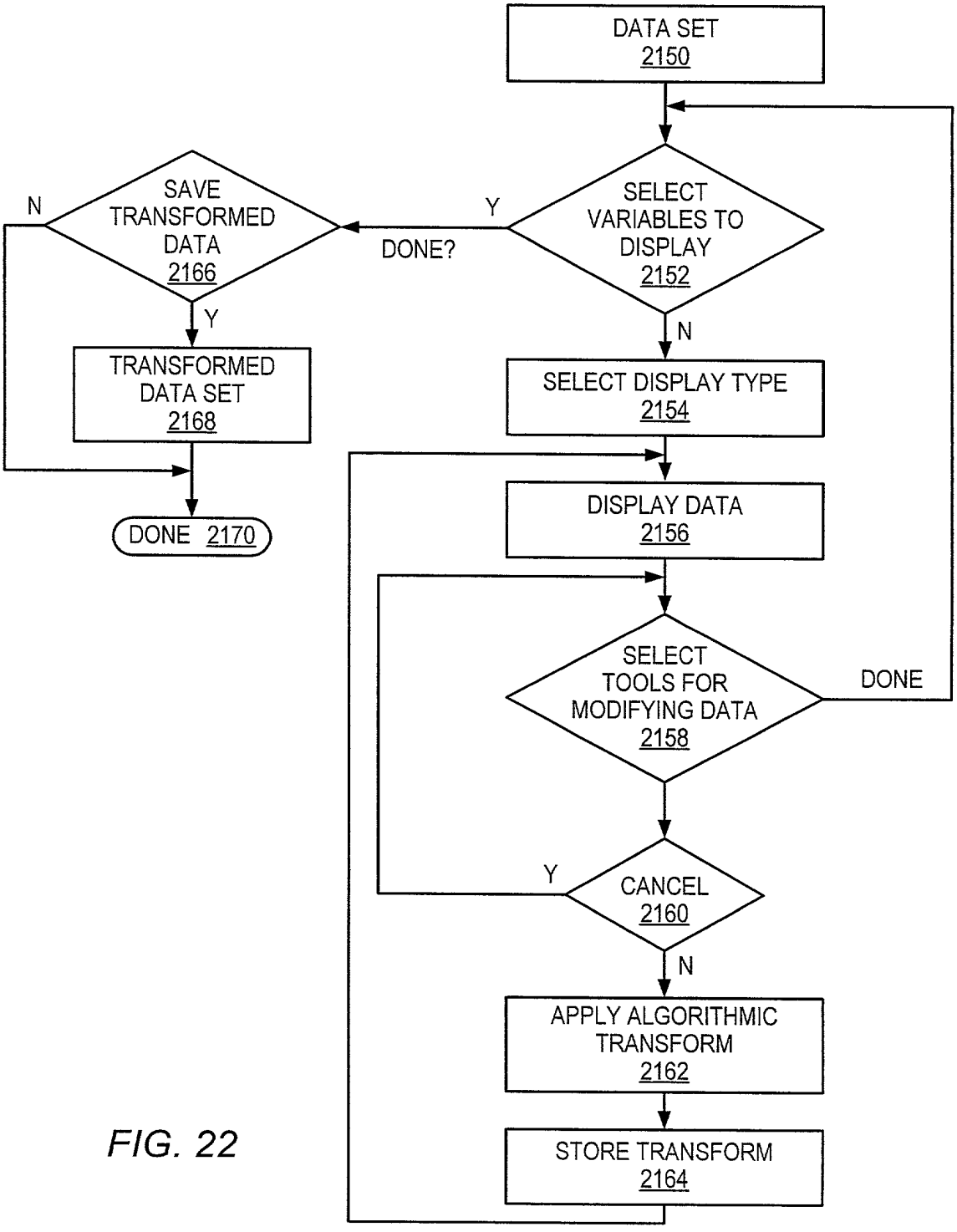

FIG. 22

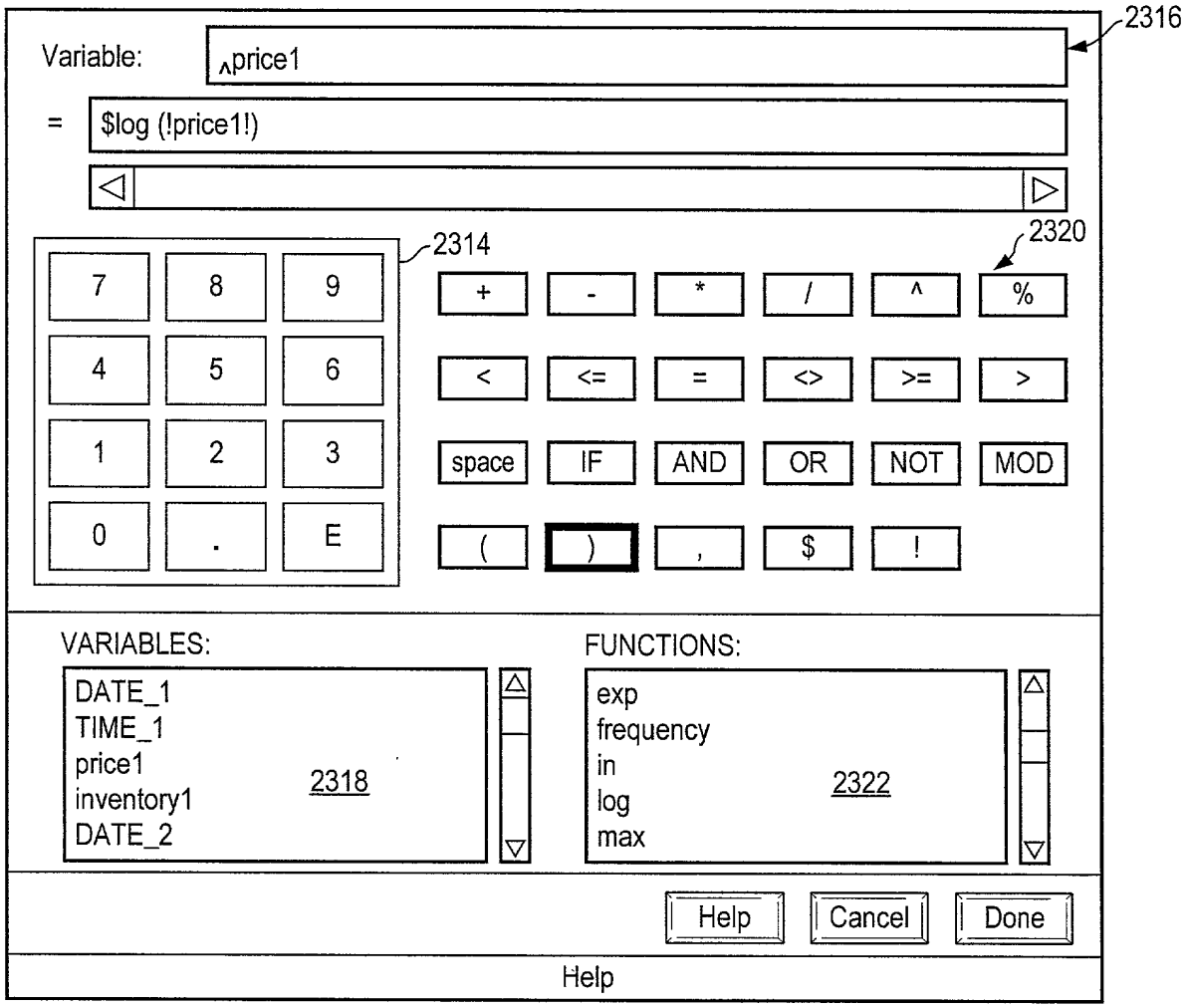
Variable:
^price1
2316
=
$log (!price1!)
2314
2320
7
8
9
4
5
6
1
2
3
0
.
E
+
-
*
/
^
%
<
<=
=
<>
>=
>
space
IF
AND
OR
NOT
MOD
(
)
,
$
!
VARIABLES:
DATE_1
TIME_1
price1
inventory1
DATE_2
2318
FUNCTIONS:
exp
frequency
in
log
max
2322
Help
Cancel
Done
Help

FIG. 23

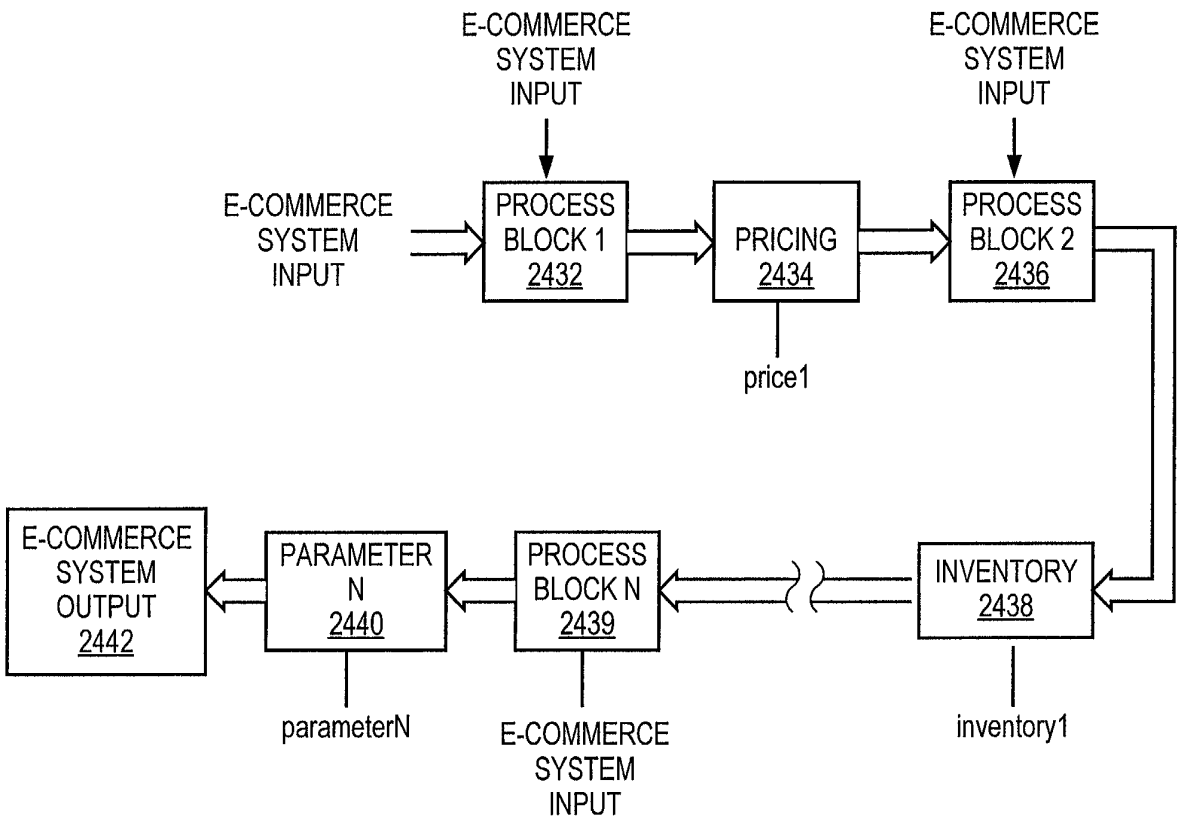
E-COMMERCE SYSTEM INPUT
E-COMMERCE SYSTEM INPUT
E-COMMERCE SYSTEM INPUT
PROCESS BLOCK 1 2432
PRICING 2434
PROCESS BLOCK 2 2436
price1
E-COMMERCE SYSTEM OUTPUT 2442
PARAMETER N 2440
PROCESS BLOCK N 2439
INVENTORY 2438
parameterN
E-COMMERCE SYSTEM INPUT
inventory1

FIG. 24

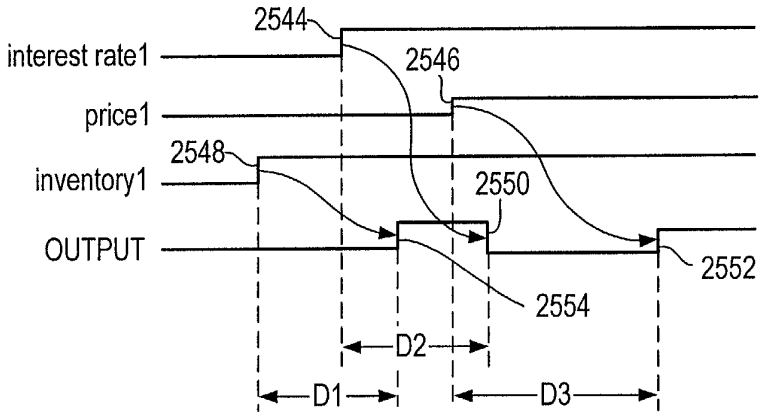
2544
interest rate1
2546
price1
2548
inventory1
2550
OUTPUT
2552
2554
D2
D1
D3

FIG. 25

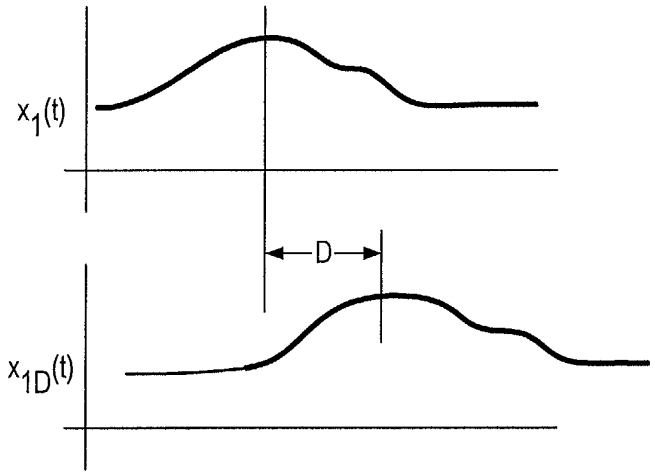

FIG. 26

Appl. No. 10/815,638

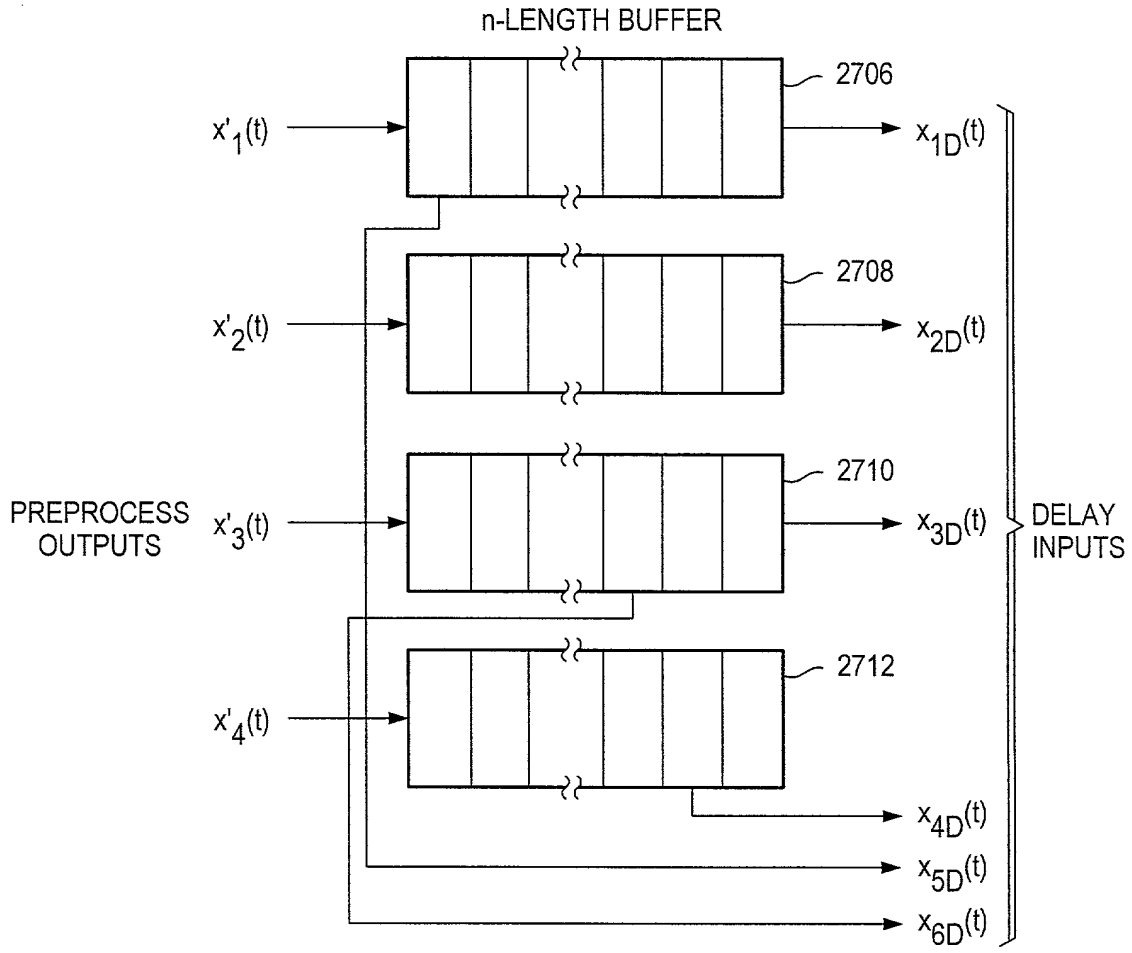

FIG. 27

DELAY SELECTION DISPLAY

TIME	price1	Inventory1	interest rate1	price2	Inventory2	interest rate2	price3	Inventory3	interest rate3	profit1
-4.5										
-4.0	INPUT									
-3.5	INPUT	INPUT								
-3.0	INPUT	INPUT	INPUT	INPUT	INPUT					
-2.5		INPUT				INPUT				
-2.0							INPUT			
-1.5								INPUT	INPUT	
-1.0										
-0.5										
0.0										OUTPUT
0.5										OUTPUT
1.0										OUTPUT
1.5										

FIG. 28

EXHIBIT 1005 - PAGE 2102

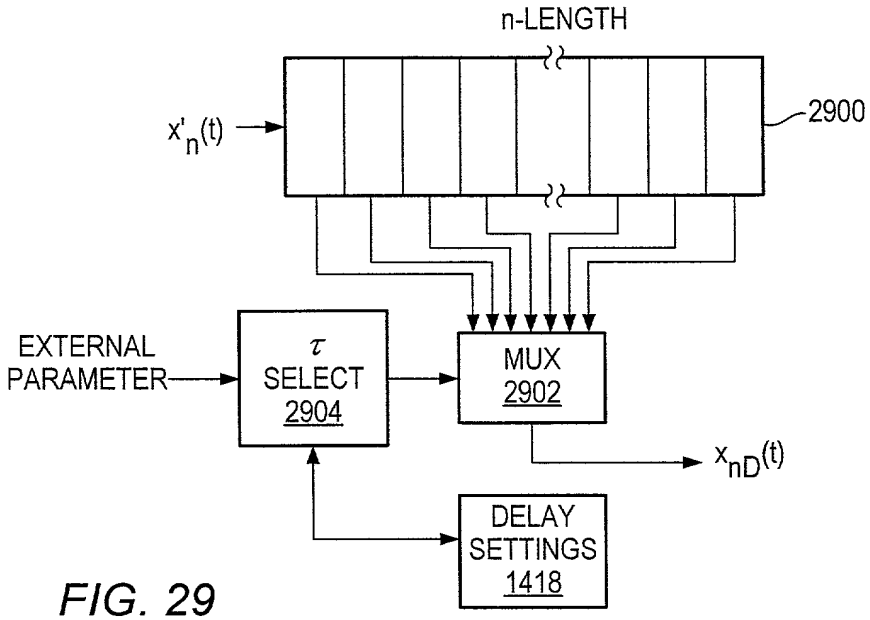

FIG. 29

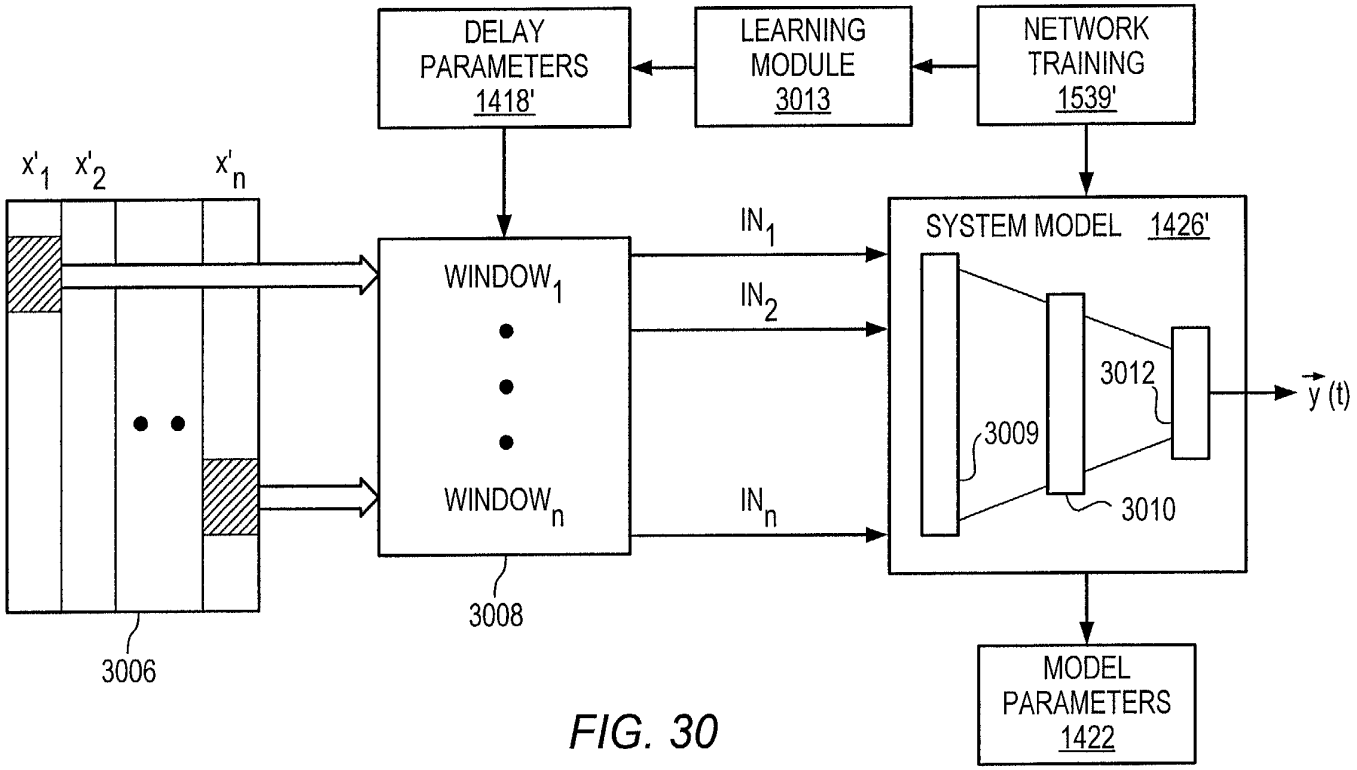
DELAY PARAMETERS 1418'
LEARNING MODULE 3013
NETWORK TRAINING 1539'
x'1 x'2 x'n
WINDOW1
WINDOWn
IN1
IN2
INn
SYSTEM MODEL 1426'
3009
3012
3010
y (t)
3006
3008
MODEL PARAMETERS 1422

FIG. 30

US 2005/0256907 A1

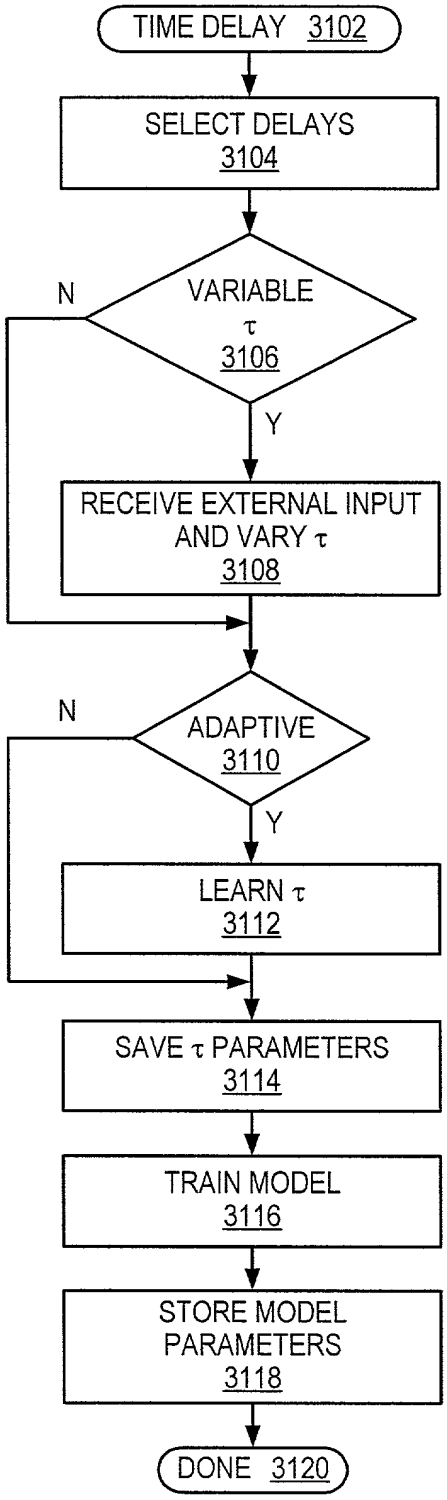

FIG. 31

US 2005/0096873 A1

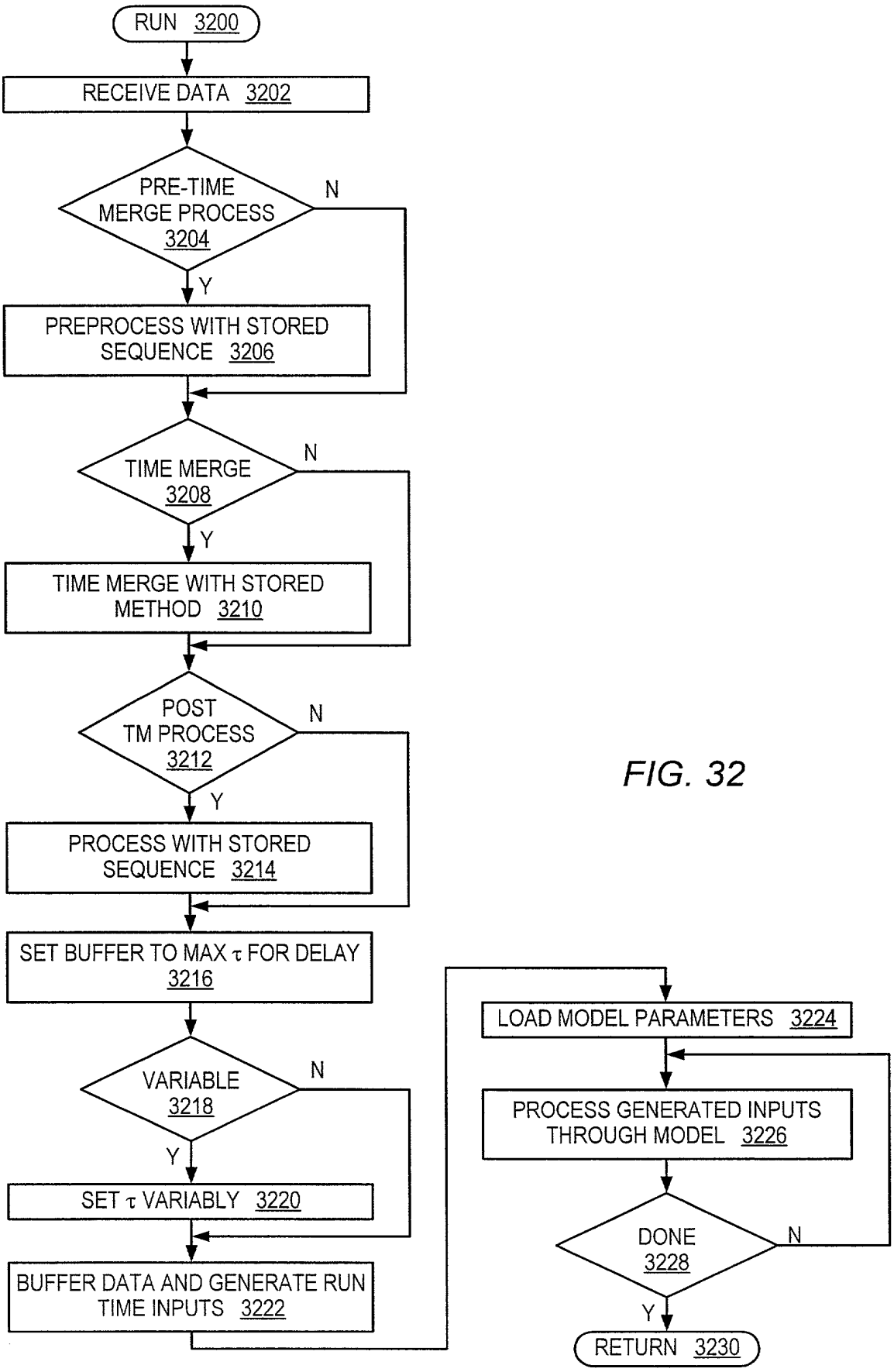

FIG. 32

US 2005/0068106 A1

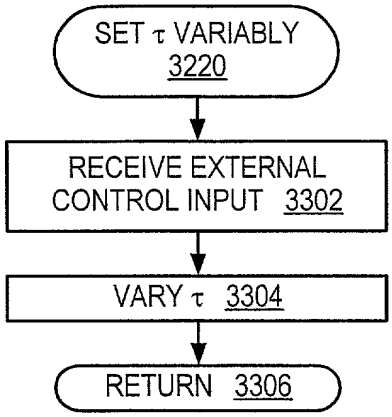

FIG. 33

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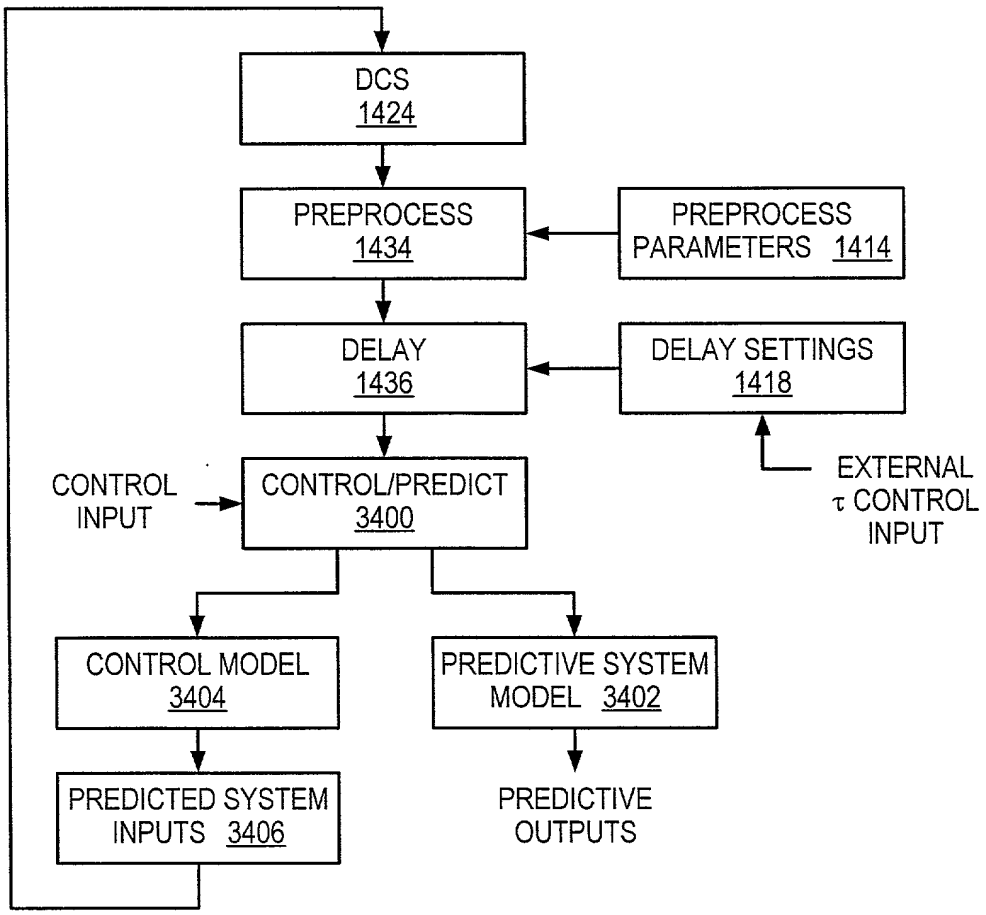

FIG. 34